IFDC

Vol. 9—No. 3
September 1984

ISSN 0149-3434

Report

an update on the work & progress at the International Fertilizer Development Center

Headquarters—

World Bank Executive Addresses Marketing Training Group

Some developing nations are slowly making progressive moves toward eliminating government control of fertilizer marketing, according to a World Bank official. This trend should encourage the development of more modern, effective marketing systems in developing countries.

Drawing on experience in his own country, India, and Nigeria as examples, Amar Jit S. Sodhi, Agricultural Economist, West African Projects, the World Bank, showed how a reduction of government's role can encourage the establishment of a commercial fertilizer system, and thus the more efficient use of fertilizer.

In his presentation, Sodhi looked critically at two important aspects of the marketing systems of these two countries: the method of assessing fertilizer requirements and the fertilizer retailing systems.

"Like many developing countries the goal of agricultural policy in India and Nigeria is 'self-sufficiency' in the production of food grains and other agricultural crops, with the widest possible participation of smallholders," Sodhi said. "Both these countries recognize that major increases in agricultural production have to come primarily through increased yields per hectare, as the net sown area is expected to increase only marginally over the years. The food strategies mission (1980) in Nigeria visualized 60% of the incremental production to come from the use of additional fertilizers. . . . Mellor of the International Food Policy Research Institute estimated that between 1970/71 and 1973/74, about 50% of the incremental food production in India came from fertilizer use."

According to Sodhi, both in India and Nigeria, like many other developing countries, the evolution of the fertilizer marketing system was not powered by the free play of market forces; in fact a series of government interventions shaped these systems. In India Government took over the responsibility in 1944 by establishing a Central Fertilizer Pool to ensure equitable distribution of available fertilizer at fair prices to all the country.

However, to encourage private investment in the fertilizer industry, the Government of India announced in 1966 a new fertilizer policy, under which the domestic fertilizer manufacturers were progressively allowed the freedom to market their own products.

(Continued on page 3)

Mr. Amar Jit S. Sodhi, Agricultural Economist, West African Projects The World Bank. (Photo Courtesy Ray Garner, *Times-Daily*, Florence, Alabama, U.S.A.)

In this issue...

Africa—

IFAD Project Nears Phase II

Expanded in 1981 with financial assistance from the International Fund for Agricultural Development (IFAD), IFDC's African fertilizer program has realized some outstanding accomplishments. Not only has the program produced striking agronomic results but also it has expanded in terms of ecological zones, crops, staff, and collaborators.

When it began in 1981 the project had three objectives. They included: (1) to investigate the production and use of cheaper sources of phosphorus, (2) to study more efficient methods of management of nitrogen fertilizer, and (3) to develop more effective and efficient integrated fertilizer application systems.

The project's coordinators, Dr. Uzo Mokwunye and Dr. Paul Vlek, IFDC Soil Scientists, recently outlined the progress of the project's first phase. "During 1982-84 IFDC succeeded in establishing a database that is unique for Sub-Sahara Africa," Dr. Mokwunye said. "This information has been generated for scientists and planners to use in planning future research or making decisions regarding the fertilizer sector."

Elaborating further, Dr. Mokwunye said, "This work has generated interest far beyond our expectations. Outside agencies are showing interest in funding research on partially acidulated phosphate rock from indigenous sources."

The project has been greatly expanded in geographical area from the original two countries—Nigeria and Niger—with which it began. The research now covers 13 African countries. Agronomic trials are being conducted in the following countries: Cameroon, Gambia, Kenya, Liberia, Malawi, Senegal, Sierra Leone, Togo, and Upper Volta. Phosphate rocks from Zambia and Zimbabwe are currently being evaluated in IFDC's laboratories and pilot plant. Future plans for the project include expanding into Benin, Burundi, Ethiopia, Ivory Coast, Madagascar, and Tanzania.

Another way that the project has been expanded is the number of crops under study. The original crops included cowpeas, maize, and millet. Now beans, cassava, groundnuts, cocoyam, and sorghum have been added.

The number of IFDC staff involved in the IFAD project on a full-time basis has doubled. In the beginning two IFDC staff members were stationed in Africa—Dr. André Bationo, Soil Scientist, at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Sahelien Centre, Niamey, Niger, and Dr. Spider Mughogho, Soil Scientist, at the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria. Since then two others have been added—Dr. Bruce Christianson, Research Associate, Niamey, Niger, and Ibe Anazía, Mineral Engineer, IFDC Headquarters.

Many soils in sub-Sahara Africa are severely deficient in phosphorus. In some cases, application rates of commercial fertilizers necessary to produce good yields are extremely high. At least 26 countries in sub-Sahara Africa have some sort of phosphate ores; exploitation of these ores for domestic consumption could save on scarce foreign exchange. The IFAD project is showing African countries how they can use moderate amounts of phosphate fertilizer produced from their own resources to greatly increase crop yields.

The collection of 1 year's results on farmers' fields has shown that partially acidulated phosphate rock produced from a Niger ore yielded agronomic results that were as good as those of triple superphosphate or single superphosphate. For example, at Gobery, Niger, partially acidulated phosphate rock applied at a rate of 20 kg/ha increased the yield of millet by 280% above that produced in plots where no phosphorus was applied. During 1984 plans are to expand the farm-level trials using this product to 52 farmers' fields. An ICRISAT socioeconomist is working closely with IFDC soil scientists on these trials.

In Nigeria, Togo phosphate rock (50% acidulation) was tested in the Agricultural Development Project (ADP) farms (under The World Bank scheme). At every site where a response to phosphorus was obtained, 50% partially acidulated phosphate rock was agronomically superior to compound fertilizer 15-15-15 or triple superphosphate and as good as single superphosphate. During 1984 the project will expand in Nigeria to include the ADP farms in the northern states.

"Our aim is to work with national scientists and to involve them in the whole process of fertilizer research," Dr. Mokwunye said.

Among our hard-working collaborators at the national level are: the Direction des Études Pedologiques et de l'Écologie Generale (DEPEG), Togo; the Institut National de Recherches Agronomiques du Niger (INRAN), Niger; the Institute of Agricultural Research (IRA), Cameroon; Njala University, Sierra Leone; the University of Liberia, Liberia; the University of Nairobi, Kenya; and Institut Senegalaise de Recherches Agricoles (ISRA), Senegal.

Two research planning meetings have been held since the project began—the first in Niamey, Niger, in February 1983, and the second in Ibadan, Nigeria, in November 1983. During these meetings the collaborating national scientists and their IFDC counterparts examined the previous year's results and together produced a plan for the forthcoming season.

Plans for Phase II include the employment of a socioeconomist to be stationed in Africa to gather information on the social and economic implications of introducing new fertilizer technology into Sub-Sahara Africa.

The IFAD project has encompassed each of IFDC's divisions. Even though the Agro-Economic Division has the lead role in administering the work of the project, the Fertilizer Technology Division has evaluated raw materials, characterized phosphate rock and other fertilizer materials, and recommended ways to use the materials for fertilizer production. In addition, the IFAD project will sponsor students in the Fertilizer Efficiency Research in the Tropics Training Program to be held in Mali in October.

As is evidenced by the expansion and accomplishments during Phase I, the IFAD project is rapidly becoming one of IFDC's major research projects and promises even greater growth and results in the future. □

World Bank Executive *(Cont'd from page 1)*

"It was an epoch-making decision, a watershed in the history of fertilizer," he said. "This decision encouraged a growing number of fertilizer manufacturers to develop modern and sophisticated marketing systems."

In Nigeria, fertilizer marketing has been handled exclusively by the Government. Before 1976 the importation and marketing of fertilizers were handled by each state government, but during that year these activities were centralized under the Ministry of Agriculture.

Because of constraints under that system, the Government of Nigeria has recently begun to commercialize its fertilizer marketing.

With an extensive background in agriculture and economics, Sodhi helped to broaden the outlook of the marketing management training participants.

Beginning work for the Government of India in 1958, Sodhi served in various capacities before he was selected to head India's extension organization in 1968. Sodhi further served his country as Managing Director of the National Seeds Corporation, the largest seed-producing enterprise of India, and also as Credit Director for the Ministry of Agriculture. For 4 years prior to his World Bank appointment, he served as Joint Secretary of the Ministry of Agriculture.□

Headquarters—

UNDP Senior Director Presents Seminar

"The first motivation of any research program must be based on human and ethical considerations. We are serving the human race . . . to improve their status and lives. They all expect something better than they have and they deserve to expect it and to get it. We have the means today to improve vastly what exists and we have the manpower to do it."

This type of positivism permeated a seminar by William T. Mashler, Senior Director of the Division for Global and Interregional Projects of the United Nations Development Programme (UNDP), presented recently at IFDC Headquarters.

In his seminar, entitled "UNDP Involvement and Related Areas," Mashler related activities of the organization that he has directed since its inception in 1971.

Today, the combined program covers five areas: food and agriculture, health, international economic relations and cooperation, energy, and human resources. More than 100 developing countries are participating in UNDP projects currently underway.

Since 1979 IFDC has received UNDP support for its training program activities and nitrogen research program.

According to Mashler, "IFDC is a crucial component in the whole system of international agricultural research. The Center has achieved a tremendous amount in a relatively short period of time. It is doing work that is not being done elsewhere."

As to new directions for IFDC to take in its programs, Mashler sees much promise in biological nitrogen fixation.

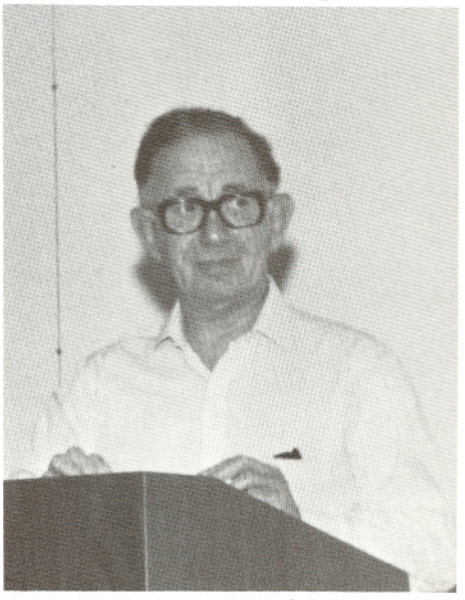
"IFDC has considerable strength in this area through its linkages with the other international agricultural research centers," he said. "One must look at nitrogen fixation as a substitute for man-made nitrogen, which is extremely expensive. We must realize that the lack of currency to buy man-made nitrogen is a major issue."

Mashler believes that biological nitrogen fixation will be the wave of the future for quite a long time. He thinks IFDC should use its present and potential capabilities to exploit this area of research.

Speaking of the entire network of the international agricultural research centers, Mashler said, "They have made a major difference in improving world food production and food security. . . . We are now comfortably ahead of population growth in terms of food production and essentially we should be in a position, given proper management and organization, to meet the needs of all peoples throughout the world."

An important mechanism in solving the food production puzzle is training. In evaluating IFDC's training activities, Mashler said, "Given the importance of IFDC and its ability to transfer technology to the scientists of the developing world, the training component is absolutely crucial; it is the centerpiece of IFDC. We at UNDP are extremely pleased with IFDC's accomplishments in training."

In conclusion, the German immigrant said, "I believe we would be delinquent in our duties, both as officials and as members of the human society, if we did not support to the hilt those operations which are ultimately designed to benefit our fellow man. In that sense we are our brother's keeper. In that sense we are major contributors to the preservation and maintenance of peace."□



Mr. William T. Mashler, Senior Director of the Division for Global and Interregional Projects, United Nations Development Programme.

Colombia—

FERITT Program Conducted in Latin America for Second Time

For the second time, the Fertilizer Efficiency Research in the Tropics (FERITT) Training Program was conducted in Spanish in Colombia during May 7-25.

Under the supervision of Dr. Adolfo Martinez, IFDC Agricultural Economist, the program was held at the Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia.

Thirty-three agronomists from private companies and government institutes of 10 countries attended the program. The countries represented were Bolivia, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Mexico, Paraguay, Peru, and Venezuela.

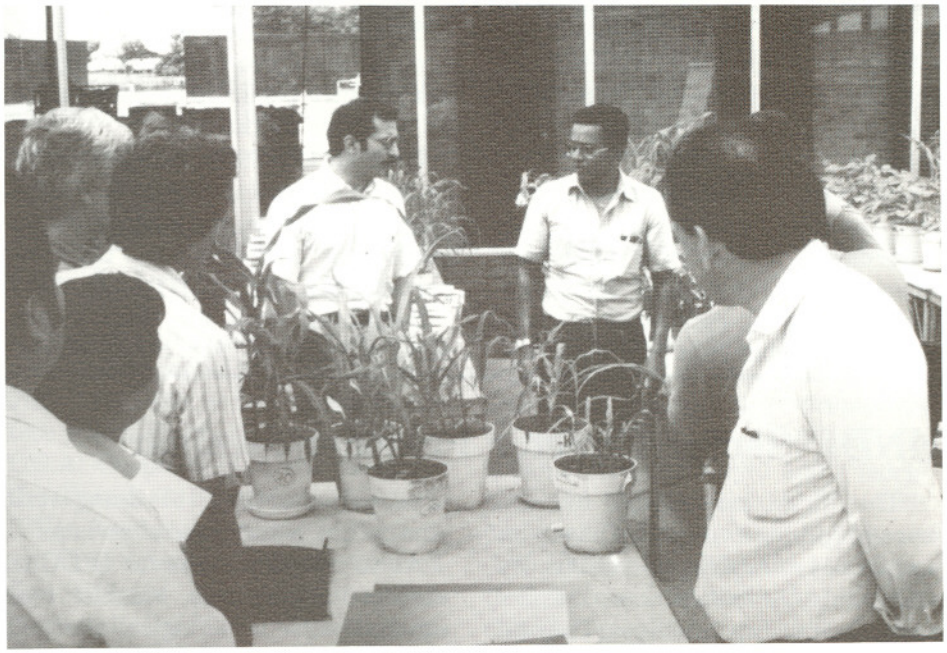
In addition to Dr. Martinez, the following IFDC staff members served on the training program faculty: Dr. J. A. Ashby, Sociologist; Dr. C. A. Baanante, Economist; Dr. L. A. Leon, Soil Scientist; and Dr. R. T. Smith, Training Specialist. Besides IFDC staff, the faculty also included representatives of CIAT, the Instituto Colombiano Agropecuario (ICA), the Facultad de Agronomia, and several private fertilizer and agribusiness companies.

The training program proposed to teach the participants proper techniques for conducting better research on fertilizer efficiency.

The 3-week program consisted of classroom lectures, a field experiment, and three field trips. The lectures focused on experimental design, statistical analysis of experimental data, economic evaluation of fertilizer materials, soil fertility management and evaluation, soil chemistry, new developments in fertilizer technology, and nutrient deficiency.

The program covered phosphate rock research, done by countries of that region. The latest research on phosphate rock and related products, conducted by IFDC at CIAT, was discussed, and results were presented.

This year two lectures on anhydrous ammonia, the lowest cost source of nitrogen to farmers, were presented. The participants learned about the product characteristics and handling and application methods of anhydrous ammonia to be used on commercial farms in Latin America.



Participants in the FERITT program observe nutrient deficiencies in beans in a CIAT greenhouse. In the center of the photo are Dr. Adolfo Martinez (left), IFDC Agricultural Economist, and Mr. Carlos A. Flor (right) with the CIAT Programa de Capacitación Cientifica-Frijol.

The program covered phosphate rock research, done by countries of that region. The latest research on phosphate rock and related products, conducted by IFDC at CIAT, was discussed, and results were presented.

Having a very practical approach, participants in this training program actually planted and harvested a bean experiment. Planted in a mountainous area of small farms, the experiment tested different sources of phosphorus on red beans, one of the staple crops of the area. The soil that was used was very phosphorus deficient.

The experiment plays a very important role in the program. It provides the participants with hands-on experience not only in the field but also in the classroom. Participants learn to (1) design experiments, (2) establish the experiments in the field, (3) determine the amount of fertilizer materials for each plot, (4) harvest the field trials and process the samples, (5) conduct statistical and economic evaluation of the fertilizers tested, (6) prepare a technical report on the experiment, and (7) make a presentation on the experiment. The participants were divided into four working groups during the program; at the conclusion of the program each group prepared and presented a report on the bean experiment.

The group gained a different perspective on field trips to a sugar mill in Ingenio Providencia; a sugarcane museum, Museo de la Caña de Azucar; and a sugarcane research center, Cenicaña. □

Headquarters—

Eighth Annual Fertilizer Marketing Management Training Program Held

Twenty fertilizer marketing officials from 10 countries attended IFDC's eighth annual Fertilizer Marketing Management Training Program held at IFDC Headquarters during August 13-September 21.

The participants came from Bangladesh, Burma, Egypt, India, Jordan, Malawi, Mexico, Nigeria, Pakistan, and the Philippines.

This program, under the direction of Dr. R. T. Smith, IFDC Training Specialist, focused on integrated marketing concepts, marketing planning, and marketing systems development.

As one of the participants, Roberto A. Del Rosario, Sales Manager, Atlas Fertilizer Corporation, Manila, the Philippines, said, "The program was a good balance of classroom and field trip activities."

"One of the best sources of information for me was the chance to exchange information with the other participants," Del Rosario said. "Someone else from another country and situation may be able to help you with a marketing problem that you are having."

A participant from Malawi, M. Mtika, who is a Marketing, Inputs, and Crop Officer with the Ministry of Agriculture, thought the program "showed the participants how fertilizer marketing is a factor in agricultural development."

The program staff received high ratings from the participants interviewed. They were especially pleased to get a chance to meet and listen to Travis P. Hignett, world-renowned fertilizer expert and IFDC's Special Consultant to the Managing Director.

Besides IFDC staff, the faculty included representatives from the Potash and Phosphate Institute, the Tennessee Valley Authority, U.S. universities, the fertilizer industry, the World Bank, and other fertilizer organizations.

Each participant's particular country situation is different; each one must adapt the information he gains during the program to help him solve his own marketing problems.

Mtika's situation is an example. "Marketing in Malawi is very different from marketing in Pakistan or India where a fertilizer company is responsible for marketing," Mtika said.

"We at the Ministry Headquarters must determine the fertilizer needs for our country and coordinate activities between the Ministry and the marketing organization. These figures must be economical since all fertilizer is imported in Malawi. Because we are a land-locked country, about two-thirds of the fertilizer cost is for transportation. In computing our requirements, we must make sure that the quantity is as low as possible."

Thus, Mtika said that the information on forecasting and market strategy planning will be useful in his job.

"I will be able to suggest a particular marketing strategy when I return," he said.

The participants who were interviewed said that 80% of their time on the job is consumed with report writing, either to their supervisors, the Board of Directors, or the ministries.

They found the information on report writing to be quite helpful. As Mr. Mtika put it, "The inverted pyramid approach to report organization is an idea that is new to me. This information will help me to organize information and write a more effective report."

Several field trips gave the program a practical dimension and allowed the participants a chance to see marketing in the United States firsthand. In Indianapolis, Indiana, they visited the Indiana Farm Bureau Cooperative Headquarters where they learned about that organization's fertilizer and chemical marketing, its strategy for selling fertilizer to local farmers, the use of advertising and other promotion means, and technical services. In West Lafayette, Indiana, they toured Purdue University. During a tour of Florida's phosphate-producing area, they visited the phosphate mine and beneficiation plant, phosphoric acid and diammonium phosphate plants, warehouses, shipping facilities, and quality-control laboratories of International Minerals and Chemical, citrus and vegetable farms, Tampa Port facilities, and the Phosrock Association, which is involved in the export of phosphate rock to the developing world. □

Three participants in the Fertilizer Marketing Management Training Program receive advice on their particular marketing problems. Pictured from left are: Dr. Dennis H. Parish, Director, IFDC Outreach Division; Mr. M. Mtika of Malawi; Mr. Farouk Aboul-Fadl of Egypt; Mr. Roberto A. Del Rosario of the Philippines; and Dr. R. T. Smith, Program Manager.

Colombia—

IFDC Staff Member Presents Portion of CIAT Training Program

Dr. Kerry J. Byrnes, IFDC Sociologist, participated in CIAT's first Seed Enterprise Marketing Management Training Program, held in Colombia during August 6-24, 1984. Approximately 30 participants from 10 Latin American countries attended. They are primarily employed in private- or public-sector seed production and/or distribution organizations.

During the program Dr. Byrnes presented the Effective Management Communication (EMC) mini-course and conducted the Green Revolution Game.

The EMC mini-course is a communications skills course oriented to developing the participant's ability to communicate effectively with subordinates, colleagues, and superiors. They learn six skills which are: (1) defining behavior, (2) determining problem ownership, (3) active listening, (4) facilitating, (5) giving I-messages, and (6) problem solving. The method of teaching involves lectures, instrumentation, and role playing. A number of work-related situations are examined during the course in order to provide participants with an opportunity to learn and practice these communications skills as they apply in solving communications problems that can arise and adversely affect worker morale and productivity.

The Green Revolution Game simulates the decisionmaking environment of the small farm in India and the farm management decisions that the farmer faces each cropping season. The game may be played with or without computer support. Recently, the game's author, Dr. Graham Chapman, at Dr. Byrnes' suggestion, set forth guidelines for modifying the game's procedures to provide active roles for a buyer (of rice), a seller (of inputs), and a banker (to extend loans). This new dimension makes it possible to use the game to simulate not only the farmer's decisionmaking but also that of private-sector agents involved in agricultural trade with farmers.

Dr. Byrnes reports that the training program participants as well as the CIAT staff members involved in the program found the EMC mini-course and the Green Revolution Game both stimulating and relevant.

Atlanta, Georgia U.S.A.—

International Potassium Symposium Scheduled for Atlanta in 1985

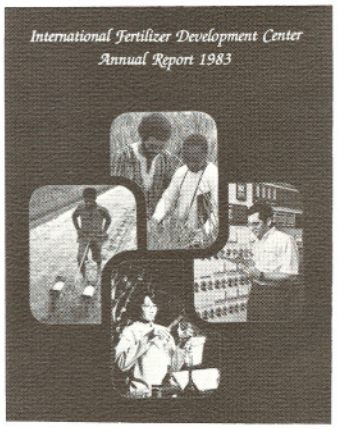
Potassium in Agriculture, an International Symposium, will be held July 7-10, 1985, at the Westin Peachtree Plaza Hotel, Atlanta, Georgia, U.S.A. Cosponsors of the event are the Potash & Phosphate Institute (PPI), American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, National Fertilizer Development Center (NFDC-TVA), International Fertilizer Development Center (IFDC), and the Foundation for Agronomic Research. Because the Symposium occurs during the 50th anniversary year of PPI, a special banquet will be held on July 9, 1985, to honor the Institute and its member companies.

More than 50 authorities from around the world will present papers on potassium production and marketing, potassium's role in plants, the behavior of potassium in soils, and potassium nutrition of the major crops grown throughout the world. Each speaker has authored a chapter for a book that is being published by the American Society of Agronomy. The book will be available at the Symposium.

Participants in the Symposium will have a choice of two post-conference tours. One will be to South Georgia, where visitors will see irrigated agricultural areas, the Coastal Plain Experiment Station at Tifton, Agrirama, Radium Springs, and general farming operations. The second tour will visit the National and International Fertilizer Development Centers in Muscle Shoals, Alabama, farming operations in the area, and Wilson Dam.

Registration—The Symposium registration fee will be $140. This includes the proceedings, "Potassium in Agriculture," and planned events (a social hour on July 7 and a reception and banquet on July 9). Tour costs will be separate and optional.

To obtain an official registration form, accommodation information, a detailed program, and other facts about the Symposium, write to: Potash & Phosphate Institute, 2801 Buford Hwy., NE, Suite 401, Atlanta, Georgia, U.S.A, 30329. Ask for the Potassium in Agriculture Symposium packet.□



IFDC Annual Report, 1983

IFDC has just released its Annual Report covering 1983 activities. The publication provides a graphic account of IFDC's activities in the areas of research, national programs, technical assistance and training—the Center's four primary program areas.

Interested parties may order the publication by requesting IFDC Circular S-7.

Recent IFDC Publications

The Vital Role of Potassium Fertilizers in Tropical Agriculture

This technical bulletin describes the results of the second study made by IFDC, with support from the International Potash Institute (IPI) and the Potash and Phosphate Institute (PPI) on the role of potassium fertilizers in tropical agriculture. Specific goals of this study were to:

1. Evaluate the potential for potassium fertilizer use as affected by the sociodemographic factors of developing countries.
2. Identify those constraints to increased use of potassium fertilizers and to suggest how they may be overcome.

In 1982/83 IFDC surveyed 26 countries in the tropics and subtropics concerning their current use of potassium fertilizers. The survey was made by using questionnaires and personally interviewing research workers and specialists familiar with fertilizer use and soil fertility in each country.

Results of the survey showed that an estimated one-fourth of the soils in these regions are deficient in potassium. In some areas as much as 70% of the land is deficient. Crop response to applications of potassium fertilizers varied widely with the crop and the type of cultivar used. But in nearly all cases where there was a potassium deficiency, the yield response was great enough to justify the application.

This publication can be obtained by requesting IFDC Technical Bulletin T-29. Please address your orders to the IFDC Purchasing Department. The only charge is for a mailing and handling fee of US $4.00 for U.S. addresses and US $7.50 for overseas addresses.

Regional Reports

IFDC has prepared four fertilizer situation reports, each on a different region of the world. The reports contain fertilizer production, consumption, export, and import data for Asia, Africa, Latin America, and the developed countries. The reports can be obtained by writing the IFDC Purchasing Department. The only charge is for a mailing and handling fee of $15 each.

IFDC Marketing Development Services

IFDC is dedicated to assisting developing countries improve the efficiency of fertilizer use and welcomes the opportunity to assist national planners and/or marketing organizations in developing cost-effective fertilizer marketing systems.

The Center has conducted fertilizer sector studies for countries and companies throughout the world. In Africa studies have been conducted for many countries including: Madagascar, Nigeria, Senegal, Zambia, and Zimbabwe. On the Asian continent, IFDC has performed market studies for Bangladesh, Indonesia, Nepal, Pakistan, Sri Lanka, and Thailand. On the Latin American scene studies have evolved on Bolivia, the East Caribbean Common Market Countries, Colombia, Ecuador, Mexico, Paraguay, and Venezuela. The marketing services provided by IFDC range from assistance in solving a particular problem to the development of a complete fertilizer marketing plan. The training and experience of IFDC's marketing staff and the expertise and experience available at the local level can provide the impetus to move a country toward improved use of fertilizer and increased food production.

IFDC has prepared a booklet illustrating a few of the many types of marketing services that it can provide. If you would like to know more about the marketing development services provided by IFDC, please request this free bulletin by writing to the Outreach Division of IFDC.

Humidity Factors Affecting Storage and Handling of Fertilizers

A new addition to the IFDC paper series considers the significance of the critical relative humidity (CRH) of fertilizer as related to handling and storage factors of the fertilizer.

Values of CRH have been determined for a number of commercial nitrogen, phosphate, and potash fertilizers and their mixtures. These values are given and compared with values for pure fertilizer salts. The significance of CRH is considered in relation to moisture tolerance, compatibility of fertilizers, and the quality of packaging required for bagged products.

Methods of controlling moisture levels in buildings for storage of fertilizer in bulk are considered. The effect of heating upon relative humidity of the air is discussed; methods of calculation are outlined and a simplified graphical method shown.

Consideration is given to the design of fertilizer warehouses for bagged products, especially in the humid tropics. Particular attention is given to the need, if any, for ventilation. Although warehouses for bagged fertilizers must be capable of being ventilated, contrary to common practice such buildings should not be permanently ventilated. Humidity factors related to these recommendations are discussed.

This paper can be obtained by requesting IFDC Paper Series P-5. Please address your orders to the IFDC Purchasing Department. The only charge is for a mailing and handling fee of US $4.00 for U.S. addresses and US $7.50 for overseas addresses.

Upcoming Training Programs

Program	Location	Dates
IFDC Headquarters		
Fertilizer Marketing		
Data Collection, Analysis, and Projections for National Fertilizer Sector Studies	IFDC	April 8-28, 1985
Fertilizer Marketing Training Program for African Region	Kenya	March 10-22, 1985
Fertilizer Production and Technology		
Regional NPK Fertilizer Production Training Program	Jordan	December 3-8, 1984
Fluid Fertilizer Training Program for Latin American Region	Mexico	March 1985
Fertilizer Production Training Program	India, Thailand Malaysia, Indonesia	February 18-March 6, 1985
Regional Programs		
Fertilizer Marketing		
Regional Fertilizer Marketing Training Program for the Asian Region	Thailand	November 26-December 8, 1984
Fertilizer Efficiency Research in the Tropics		
Fertilizer Efficiency Research & Technology Transfer (FERATT) Workshop for the African Region	Cameroon	January 21-25, 1985

NOTE: Dates are subject to change.

IFDC Report

Published Quarterly by the
International Fertilizer Development Center

IFDC is a public, nonprofit organization dedicated to increasing food production through the development of new and improved fertilizers and fertilizer know-how for developing countries.

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