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■ WEED CONTROL SYSTEMS FOR REPRESENTATIVE FARMS IN DEVELOPING COUNTRIES

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SEMI-ANNUAL REPORT

APRIL 1, 1974 THROUGH SEPTEMBER 30, 1974
.....

SECTION A - SUMMARY

SECTION B - ADMINISTRATIVE REPORT

SECTION C - BUDGETARY REPORT

SECTION A - SUMMARY

Highlights of the reporting period include: a highly useful project team visit to Thailand and the Philippines, including review of a proposal for a National Weed Science Research Institute in Thailand; completion of the initial research trials at various sites in Northeastern Brazil and collection of the first raw data; appointment of a weed scientist to assume leadership of the program in El Salvador (and Central America); submission of a proposal--and authorization for funding--for a joint weed science training course to be held at CIAT/Cali in mid-1975; a discussion and review of project activities at Corvallis by AID/W personnel; and continuation of other programs including information dissemination, publications, economic analyses, and active linkages with other research entities worldwide.

SECTION B - ADMINISTRATIVE REPORT

BRAZIL EXPERIMENTS SHOW WEED CONTROL BENEFITS

The first series of weed research experiments have been completed by the project at the Caruaru research site in Northeastern Brazil. Preliminary economic evaluation of experiments in field beans indicates a cost-to-benefit ratio for weed control of 7 to 1. Results from the other trials--corn, and combined corn and bean--are currently being evaluated.

The physical substitution rate between various types of mechanical weeding (mule drawn, and "hand" or walk-behind tractor) and manual weeding (hoeing) appears to be constant at 1 to 1. Manual methods are less expensive however. Several "one shot" chemical treatments also provide good weed control.

Water availability and distribution is a limiting factor for production increases. Also, fertilizer is uneconomical (cost compared to return) under present price conditions.

Data is presently being collected on the social and economic characteristics and coefficients of the farm population and associated labor pool in the Caruaru area. These data will be utilized in models aimed at evaluating proposed technological changes in weed control.

AID/OSU BRAZIL TEAM DRAWS LOCAL PRAISE

During an on-site project review, project director Dr. S. F. Miller was informed by long-time AID staff member Sr. Paulo Sá that the AID/OSU team is the best he (Sá) has experienced in terms of both the quality of work performed and the ability to cooperate effectively with

Brazilian scientists. Dr. Sosigenes G. da Fonseca, director of the IPEANE research station at Recife, echoed the same sentiments.

All three members of the AID/OSU team are fluent in Portuguese. They appear to have gained the respect not only of Brazilian governmental personnel at various levels, but also other international agency scientists including FAO staff and the University of Wisconsin group.

AID/OSU EL SALVADOR PROGRAM
GAINS NEW LEADER AND EMPHASIS

Weed scientist R. L. "Rick" Chase was appointed regional project

leader for the AID/OSU program in Central America in spring 1974. The project, to maintain active liaison, moved its office from Santa Tecla to the San Andrés Research Station of CENTA (Central Nacional de Tecnología Agropecuaria), El Salvador.

A new series of field trials was established to obtain agronomic and economic information; several have been completed with data collection now in the initial stage. Corn, beans, rice, and combined corn and beans, were among the crops included.

Several events have hampered progress. A lack of experienced counterparts, and uneven weed populations that caused evaluation difficulties, have resulted in some loss of data. However, considerable data is being obtained and is expected to be useful.

Many of the trials established in El Salvador were also installed in other Central American countries: Costa Rica, Honduras, Nicaragua, and Guatemala. Several interesting inter-nation comparisons could result from this effort.

Chase, in company with project consultant Eduardo Locatelli, spent a number of days travelling to Costa Rica, Guatemala, Honduras, and Nicaragua to contact counterpart researchers and various AID mission personnel, as well as review research plans.

AID/OSU TEAM ESTABLISHES CONTACTS IN ASIA

Dr. S. F. Miller and Larry C. Burrill, project research agronomist, visited several research centers in Asia including the International Rice Research Institute (IRRI), the Philippines, and various entities in Thailand.

One of the highlights in the Philippines was a visit to a traditional upland rice farm of approximately four hectares in Batangas province. The farmer did not own the property, used no motorized equipment, and was not practicing any form of weed control.

A number of IRRI staff members were consulted and IRRI's weed control research plots and activities reviewed.

The AID/OSU team also met with Dr. F. F. Sánchez, director of the Rodent Research Center at Los Baños, to discuss the proposal of establishing a Southeast Asian and Pacific Regional Program for Control of Pests Affecting Agriculture and Human Health. Meetings between AID and FAO are anticipated and, at the time of contact, it was not clear how the AID/OSU weed project would fit into the picture.

THAI WEED CENTER PROPOSAL REVIEWED

One of the main objectives of visiting Thailand involved discussion and review of a proposed National Weed Science Research Institute (NWSRI). AID/W,

after receiving the proposal for NWSRI, requested OSU to review, discuss, and evaluate it. At present weed control is estimated to consume from 15-50 percent of the total productive man-hours devoted to crop production in Thailand, which lends support to the creation of NWSRI.

As reviewed, the proposal calls for NWSRI to be established within the Thai Department of Agriculture as a fully integrated part of the department; therefore, the reviewers suggested a different descriptor, such as "center," might be more appropriate. NWSRI would be located in a new research complex at Bangkhen, Bangkok, with field work conducted at various sites throughout the country.

The AID/OSU team prepared an extensive written review defining parameters of operation and detailing the possible AID input as well as the basic supplies and equipment needs anticipated. A tentative time-phased work schedule was prepared. Copies of all documents were forwarded to all parties involved.

A trip to rice and corn producing provinces in the central plains and a second day spent visiting provinces in the Southeast region producing cassava, sugar cane, and pineapple rounded out the team's stay in Thailand.

TAB/W OFFICIAL VISITS
OSU WEED PROJECT

James A. Urano, Chief, Agricultural Inputs Division, Office of Agriculture, TAB/W, accompanied by senior consultant Ralph Hansen, spent several days at Oregon State University in late August reviewing project operations and discussing future planning. A research trial at Hyslop agricultural research farm was observed as well as several pieces of

small capacity, low cost pesticide application equipment.

AID/OSU-CIAT TRAINING COURSE
GAINS FUNDING

A proposed month-long weed science training course, organized jointly by AID/OSU and Centro Internacional Agricultura Tropical (CIAT) has been approved and funded. The course, slated to take place at CIAT's Cali, Colombia, headquarters, June 15 - July 12, 1975, will provide support for 20 selected weed scientists (as well as 10 others on a self-support basis) from Latin American countries. A time-phased work plan has been prepared and submitted.

PROJECT AGRONOMIST
PARTICIPATES IN
INDONESIAN COURSE

AID/OSU project agronomist Larry C. Burrill was again invited to participate as a faculty member of the Indonesian weed science short course offered at Bogor during May and June. The five week event, sponsored by the Southeastern Asian Ministers of Education Organization (SEAMEO), attracted students from six countries for an intensive program of formalized classroom instruction and practical field work.

PROJECT PERSONNEL

A list of AID/OSU staff members for the period covered by this report is as follows:

- Stanley F. Miller, director - Corvallis
- Allan Deutsch, information services/administration - Corvallis
- Larry C. Burrill, research agronomist - Corvallis
- Georgena S. Knapp, fiscal affairs/translation - Corvallis
- Arnold Appleby, research agronomist - Corvallis (20%)
- Ronald Burr, extension agronomist - Corvallis (10%)
- Myron D. Shenk, research agronomist - Recife, Brazil
- Herbert H. Fisher, research agronomist - Recife, Brazil
- Douglas L. Young, agricultural economist - Recife, Brazil

Richard L. Chase, research agronomist - San Andrés, El Salvador

Frank G. Fraser, experimental biology technician - Corvallis

Myrna Wade, secretary - Corvallis

Dolores Casanova, secretary - El Salvador

Tracy Colby, secretary - Corvallis (appointed 7/2/74) (50%)

PROJECT SUPPORTS
INFORMATION PROGRAM

The project staff responded to requests for, and inquiries about, technical information and publications from AID missions, FAO and UNDP personnel, as well as researchers and educators in LDCs. Three issues of the IPPC INFOLETTER were published and sent without cost to a mailing list of over 3,600 names in more than 120 countries.

The manuscript for PREVALENT WEEDS OF CENTRAL AMERICA, a full-color identification manual for nearly 300 weed species, was completed and a contract signed with a printer in El Salvador. Initial production and typesetting has been completed. Some difficulties have arisen in connection with color separation work, delaying the expected date of delivery.

A direct mail piece designed and published by the project to verify its mailing list won a first prize award in a field of 23 entries in national competition sponsored by the American Association of Agricultural College Editors.

Preliminary rough drafts have been prepared for a proposed Weed Science Research Field Manual, a "how to" handbook aimed at relatively inexperienced personnel in LDCs engaged in designing, conducting, or maintaining weed research programs.

BRIEFS ON OTHER PROJECT ACTIVITIES

Myron Shenk and Herb Fisher, accompanied by several project counterparts, attended the 10th Brazilian Herbicide and Weed Society meeting at Santa Maria, Rio Grande do Sul, July 16-19. The AID/OSU team presented three papers.....A second truck (½-ton pickup) has arrived in Brazil, but has been deadlined by problems in attaining license plates....

...Plans for next year's experiments in Brazil call for beans and corn, as before, plus the addition of sorghum and cassava....

...More than 60 people attended a project field day, July 4, at the Caruaru, Brazil, experiment station. The purpose was to acquaint government researchers, extension agents, and farmers with the AID/OSU program. A vast majority of the visitors felt the experimentation being conducted would be valuable to Northeastern area farmers.....Experiments to be established in El Salvador this fall include two with the prevalent weed purple nutsedge, one with potatoes, and one in collaboration with the University of Florida's intensive cropping (inter-cropping) scheme.....the AID/OSU team, while visiting IRRI, presented a seminar on project activities and current trends in weed control to approximately 30 University of Los Baños, governmental and industry personnel....

...While in the Philippines, the project team also met with officers of the Weed Science Society of the Philippines.....An AID/OSU staff member attended the annual meeting of the Hyacinth Control Society, July 15-17, at Orlando, Florida.....The publication MALEZAS TROPICALES/TROPICAL WEEDS was reprinted and arrangements were completed for a second printing of MALEZAS ACUATICAS/AQUATIC

WEEDS, in cooperation with the Colombian Plant Physiology and Weed Control Society (COMALFI).....The last copies of a 2000 copy initial printing of MANUAL OF PESTICIDE APPLICATION EQUIPMENT have been distributed.

SECTION C - BUDGETARY REPORT

	Total Budget 3/1/73 to 5/31/75	Actual Expend- itures 3/1/73 to 3/31/74 (13 mos.)	Budget Available for Period 4/1/74 to 5/31/75 (14 mos.)	Paid and Obligated 4/1/74 to 9/30/74	Balance
Salaries and Wages					
On-campus	204,952	97,358.20	107,593.80	41,608.61	65,985.19
Off-campus	115,530	34,311.24	81,218.76	31,996.04	49,222.72
Total	320,482	131,669.44	188,812.56	73,604.65	115,207.91
Payroll Assessments	43,377	16,903.06	26,473.94	10,383.12	16,090.82
Indirect Costs					
On-campus	97,139	46,176.99	50,962.01	19,734.96	31,227.05
Off-campus	36,972	11,020.78	25,951.22	10,277.13	15,674.09
Total	134,111	57,197.77	76,913.23	30,012.09	46,901.14
Consultants	9,800	3,500.00	6,300.00	1,300.00	5,000.00
Travel, Transpor- tation and Allow- ances	167,145	60,676.58	106,468.42	36,014.86	70,453.56
Other Direct Costs	14,329	6,830.67	7,498.33	3,421.49	4,076.84
Equipment, Vehicles, Materials and Sup- plies	51,871	20,237.07	31,633.93	9,805.72	21,828.21
◆ Total	741,115	297,014.59	444,100.41	164,541.93	279,558.48