

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D. C. 20523
BIBLIOGRAPHIC INPUT SHEET

FOR AID USE ONLY

Batch 42

1. SUBJECT CLASSIFICATION	A. PRIMARY Serials	Y-AH60-0000-0000
	B. SECONDARY Food production and nutrition--Weeds	

2. TITLE AND SUBTITLE
Weed control systems for representative farms in developing countries; semi-annual report, April-Sept. 1976

3. AUTHOR(S)
(101) Or.State Univ. Int.Plant Protection Center

4. DOCUMENT DATE 1976	5. NUMBER OF PAGES 7p.	6. ARC NUMBER ARC
---------------------------------	----------------------------------	----------------------

7. REFERENCE ORGANIZATION NAME AND ADDRESS
Or.State

8. SUPPLEMENTARY NOTES (*Sponsoring Organization, Publishers, Availability*)
(Adm.summary)

9. ABSTRACT

10. CONTROL NUMBER PN-AAC-764	11. PRICE OF DOCUMENT
12. DESCRIPTORS Research	13. PROJECT NUMBER
	14. CONTRACT NUMBER AID/ta-C-1295 Res.
	15. TYPE OF DOCUMENT

PN-AAC-764
AID/ta-C-1295 Res.

Agency for International Development / Oregon State University

Contracts AID/CM/ta-C-1295 *Research*
AID/CM/ta-C-1303 *GTS*

**WEED CONTROL SYSTEMS FOR
REPRESENTATIVE FARMS IN DEVELOPING COUNTRIES**

Coordinated by the International Plant Protection Center



SEMI-ANNUAL REPORT

APRIL 1, 1976 THROUGH SEPTEMBER 30, 1976

REPORT 19-C-76

SECTION A - ADMINISTRATIVE REPORT

SECTION B - FINANCIAL REPORT

SECTION A - ADMINISTRATIVE REPORT

**AID AND OSU BEGIN
NEW 3-YEAR EFFORT
IN WEED CONTROL**

The Agency for International Development and Oregon State University agreed to a new three-year contract for research in Weed Control Systems for Representative Farms in Developing Countries starting April 1, 1976.

The new contract--actually two separate components, one covering research activities and the other technical assistance--calls for OSU to continue programs in Central America and to commence on-site operations in Asia. Contractual arrangements also provide for launching a sub-contract in aquatic weed research and technical assistance.

**AID-ROCAP, CATIE
AND OSU LINK UP
IN COSTA RICA**

Agreement was reached between AID's Regional Office for Central American Programs (ROCAP), Centro Agronómico Tropical de Investigación y Enseñaza (CATIE), AID/ Washington, and OSU for the latter to station a research/technical assistance team at Turrialba, Costa Rica, to work cooperatively in developing crop systems for small farmers. Two agronomists, plus an agricultural economist on short-term assignment, comprise the AID/OSU group. OSU will provide the weed control input for the systems team which is already functioning at CATIE. The AID/OSU group also will provide weed control support to other Central American countries through periodic visits, cooperative research, extension efforts, and short courses.

Both project agronomists arrived at CATIE during August-September, 1976; each drove his personal automobile from Corvallis to Turrialba in convoy with one other OSU staff member who drove a project vehicle. Driving facilitated the prompt arrival of the vehicles in addition to reducing overall transportation costs. The overland trips also served to transfer library materials, office equipment, and supplies from the recently closed AID/OSU office in El Salvador to Costa Rica, again avoiding delays and shipping charges.

PAKISTAN PROJECT SITE
UNDER INVESTIGATION

Following a multi-nation evaluation trip by project members Dr. S.F. Miller and L.C. Burrill, and consultation with Dr. E.J. Rice (TAB, AID/Washington), the decision was reached to locate the second AID/OSU

weed research group in Pakistan. It was felt that a general awareness of weed problems exists in Pakistan and that the Pakistan Agricultural Research Council (ARC) is sincerely interested in working cooperatively with the AID/OSU program. A draft memorandum of understanding setting forth proposed objectives, responsibilities of all parties involved, and the basic work plan framework was prepared by Miller and Burrill and left in Pakistan in early September. ARC was to respond to the adequacy of the document; if deemed acceptable, two AID/OSU agronomists should be in Pakistan early in 1977.

While in Pakistan the OSU staff members also discussed the possibility of sending a staff weed research specialist to Islamabad for a one-to-two month TDY to initiate comparative tests of weed control methods in wheat. The proposed TDY schedule meshed with a journey to Asia (to present a paper at a seminar in the Philippines) planned by project agronomist, H.H. Fisher. Telegrams were sent to AID/Pakistan explaining the situation and requesting response. Unfortunately, the response did not arrive in time for Fisher to continue on to Pakistan from Taiwan. The status of the TDY is uncertain as of this writing.

AQUATIC WEED EFFORT
SUB-CONTRACT SIGNED

OSU has signed a sub-contract with the University of Florida (UF) at Gainesville to provide technical assistance to developing nations for solving aquatic weed problems and also to establish an aquatic weed information and reference center.

UF's Dr. George Allen, an entomologist/aquatic weed biologist, heads up the program whose specific objectives include: identifying biological and socio-economic problems of aquatic weeds in agricultural and related situations; developing integrated weed control technology; providing short term consultation for less developed nations; and, launching the reference/information activity.

Dr. Allen initially plans to develop a team of short term consultants for technical advising in LDCs, and simultaneously to survey aquatic weed problems in various parts of the world. The information dissemination function began operating in September, 1976.

**PAPERS PRESENTED
BY STAFF MEMBERS**

Staff research agronomist L.C. Burrill spent four weeks visiting institutions in Asia and in Europe. Objectives of the trip included: assessing potential for collaborative weed control systems research in Pakistan; meeting with FAO personnel in Rome to discuss the scope, activities, and state of the recently funded FAO weed scientist position; and reporting on the progress of the recently established International Weed Science Society.

Mr. Burrill stopped at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, India to present a brief program and to consult on future cooperation and support in weed control research. In the UK, he visited the Weed Research Organization to review WRO's ongoing international and domestic weed science programs.

Scotland's Stirling University and the British Crop Protection Council staged a symposium on Syllabuses and Course Content for Crop Protection Courses during September, at Stirling and extended an invitation to the International Plant Protection Center at OSU to participate. A paper entitled Weed Control Short Courses for Developing Countries was prepared by Dr. J. Doll (CIAT) and Burrill and presented by the latter. Attendance at the symposium occurred in conjunction with the same Asian-European trip by Burrill.

The paper Approaches to Weed Control in Cropping Systems, by D. Plucknett, E.J. Rice, L.C. Burrill and H.H. Fisher was presented by Fisher during the symposium on Cropping Systems Research and Development for the Asian Rice Farmer, September 21-24, 1976, at the International Rice Research Institute (IRRI), Philippines. While attending the symposium Fisher also viewed weed research being conducted in rice and cropping systems by Dr. Keith Moody, IRRI Associate Agronomist, and later visited the Weed Science Section of the Department of Agronomy at the University of the Philippines at Los Banos.

Before returning to OSU Fisher travelled to Taiwan to observe cropping systems research being carried out at the Asian Vegetable Research and Development Center (AVRDC), Tainan. Dr. Raymond D. William, AVRDC Training Officer and Crop Management Specialist, accompanied Fisher during two days devoted to studying farming practices on local, small establishments. These methods include various cropping systems commonly employed by small farmers in Southeast Asia.

Project staff members Dr. E. Locatelli, R.L. Chase, and A.E. Deutsch attended the joint Asociación Latinoamericana de Malezas/Asociación Argentina para el Control de Malezas meeting March 28-April 2, at Mar del Plata, Argentina. Dr. Locatelli presented two papers and Mr. Chase one. Mr. Deutsch returned to the U.S. via Recife, Brazil, to consult with Mr. Fisher in connection with closing the project's Brazilian program.

In addition to papers presented in person, Dr. Miller and Mr. D.L. Young, agricultural economist with the project, jointly authored Economic Considerations Affecting Alternative Weed Control Methods for Developing Countries, and submitted it for presentation at the Sixth East African Weed Science Conference,

Nairobi, Kenya. Mr. Young also prepared, A Theoretical Framework for Evaluating Social Welfare Effects of New Agricultural Technology, which was presented at the annual meeting of the Western Agricultural Economics Association, held at Ft. Collins, Colorado, July 18-20, 1976.

SHORT COURSE
PRESENTATION

Research agronomist Fisher, helped organize and present a 2-day weed control short course as part of the Brazilian Enterprise for Agricultural Research (EMBRAPA) 3-week, First National Cassava Production course in Cruz das Almas, Brazil, May 4-6. The joint effort by Fisher and Dr. Jerry Doll, CIAT, Cali, Colombia, included lectures on basic weed research principles, field weed identification, demonstration and calibration of application equipment, description of AID/OSU Northeast Brazil weed research project goals, methodology, and important findings and results of CIAT cassava weed research.

HERBICIDE EVALUATION TRIAL
CONDUCTED IN OREGON

A screening trial was established in Oregon during May 1976 to evaluate 14 experimental herbicides from seven chemical companies. Thirty-three crop and weed species were used to evaluate the herbicides and to generate information concerning general phytotoxicity and crop selectivity. Representative commercial herbicides were included in the trial for comparative purposes to help determine the effectiveness of the new, experimental compounds. Reports of the results were provided to many public researchers, as well as the companies involved.

PROJECT SUSTAINS
INFORMATION PROGRAM

The project continued its publications program during the reporting period through support of IPPC which produced and distributed two issues of the IPPC INFOLETTER (sent to over 3,800 recipients in more than 100 countries). In addition to the results of the aforementioned screening trial, IPPC also published A WORLDWIDE CATEGORIZED PARTIAL LISTING FOR MANUFACTURERS OF PESTICIDE APPLICATION EQUIPMENT / UNA LISTA PARCIAL MUNDIAL Y CLASIFICADA DE FABRICANTES DE EQUIPOS PARA LA APLICACION DE PESTICIDAS. More than 400 firms worldwide manufacturing a wide variety of pesticide application equipment are listed under 120 product categories. An address list for manufacturers--by country--is included, so that the publication serves as the only single reference source for all types of pesticide application equipment (except aerial) known to exist. Complimentary copies were provided to numerous LDC cooperators, weed scientists, and educators.

The final touches were applied to the forthcoming publication FIELD MANUAL FOR WEED CONTROL RESEARCH, a comprehensive, practical handbook aimed at agriculturalists (in developing countries) with responsibility for conducting weed control research. The book--English version--is in press and is expected to be available for distribution within 60 days. Work has begun on the preparation of the Spanish edition.

Two titles were added to the IPPC Papers series. A total of 735 copies of papers from the series were distributed during the reporting period.

The Project, through IPPC, also distributed 1,206 copies of various publication titles, supplied information on manufacturers of equipment mentioned in INFOLETTER in response to 36 requests, and individually responded to numerous other requests for specific (and not so specific) information related to weed control.

**PROJECT SUPPORTS
IWSS ACTIVITIES**

During the past six months the International Weed Science Society has solicited individual and group membership. An announcement brochure and newsletter were prepared by the IPPC staff. In addition, all mailing and registration, including handling of fees, has been performed by IPPC office staff. Nearly 200 individuals from many nations have established membership, thus creating the foundation for extended international linkage and information sharing in weed science.

**AID/OSU STAFFER DEVELOPS
PRACTICAL FABRICATION
METHOD AND DEVICE**

Project research technician Mr. F. Fraser developed a method for accurate fabrication of test plot sprayer booms, and fabricated a sighting device to simplify laying out research plots with square corners. Both the fabrication method and sighting device are relatively simple, low-cost and suitable for use under relatively unsophisticated conditions in developing countries. The fabrication process was reported and illustrated in INFOLETTER.

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%) (to 6/30/76)
 Myron D. Shenk, research agronomist - Corvallis and Turrialba, Costa Rica
 Herbert H. Fisher, research agronomist - Corvallis
 Eduardo Locatelli, research agronomist - Corvallis and Turrialba, Costa Rica
 (appointed 5/1/76)
 Douglas L. Young, agricultural economist - Corvallis (transferred 7/1/76)
 Frank Conklin, agricultural economist - Corvallis (appointed 9/1/76)
 Dennis T. O'Brien, agricultural economist - Corvallis (appointed 9/1/76)
 Richard L. Chase, research assistant - Corvallis (appointed 9/1/76)
 Frank G. Fraser, experimental biology technician - Corvallis
 Myrna Wade, secretary - Corvallis
 Christie Anderson, clerical specialist - Corvallis (appointed 4/5/76)

SECTION B FINANCIAL REPORT

	Budget for 4/1/76 to 3/31/77	Actual expenditures 4/1/76 to 9/30/76	Balance and anticipated expenditures to 3/31/77
RESEARCH PROGRAM			
Salaries and wages	\$ 96,215	\$24,042.11	\$ 72,172.89
Fringe benefits	15,394	3,707.35	11,686.65
Indirect costs	37,280	10,704.33	26,575.67
Allowances	17,690	--	17,690.00
Travel and transportation	48,511	5,762.15	42,748.85
Other direct costs	2,437	472.01	1,964.99
Equipment, vehicles materials and supplies	22,473	6,991.05	15,481.95
TOTAL	\$240,000	\$51,679.00	\$188,321.00

TECHNICAL ASSISTANCE

Salaries and wages	115,780	43,449.39	72,330.61
Fringe benefits	18,525	6,710.40	11,814.60
Indirect costs	48,015	19,367.86	28,647.14
Differential and allowances	17,620	--	17,620.00
Travel and transportation	32,761	6,357.16	26,403.84
Other direct costs	2,839	452.03	2,386.87
Equipment, vehicles materials and supplies	28,504	7,905.89	20,598.11
Sub-contract	58,000	--	58,000.00
TOTAL	\$322,044	\$84,242.73	\$237,801.27