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CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE Weed Control Systems for Representative Farms in Developing Countries AID/ta-C-1295			2. PROJECT NUMBER 931-0463	3. MISSION/AID/W OFFICE DS/AGR/FCP
5. KEY PROJECT IMPLEMENTATION DATES			4. ESTIMATED PROJECT FUNDING	
A. First PRO-AG or Equivalent FY 76	B. Final Obligation Expected FY 77	C. Final Input Delivery FY 79	A. Total \$	B. U.S. \$ 3,514,000
7. PERIOD COVERED BY EVALUATION			6. ACTION DECISIONS: APPROVED BY MISSION OR AID/W OFFICE DIRECTOR	
From (month/yr.) 7/77			A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	
To (month/yr.) 7/78			B. NAME OF OFFICER RESPONSIBLE FOR ACTION	
Date of Evaluation Review 8/21-23/78			C. DATE ACTION TO BE COMPLETED	

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Extend projects for 2 or 3 years beyond March 31, 1979.	AID/W	March 1979
2. Continuation of Central America work at CATIE to be contingent on CATIE supplying a full-time staff counterpart in weed control	OSU/CATIE	June 1979
3. Recommend addition of one, on-site, agricultural economist to work on the socioeconomic aspects of weed control in Central America and one in the Philippines, with a full-time equivalent counterpart at each location.	OSU/AID/W	Sept. 1979
4. Establish appropriate linkages with industry in the U.S. and in the countries where projects are carried out.	OSU	Continuing
5. Look ahead to how the weed control project might be incorporated into the Title XII project on Integrated Pest Management.	OSU/AID/W	Jan. 1980
6. Cooperate with the CATIE-ROCAP project on Small Farmers Cropping Systems Research in Central America to integrate weed control programs into overall systems of production.	OSU/CATIE/ ROCAP	Continuing
7. Provide linkages/support within OSU for the development of hand tools appropriate for no till/mulch systems.	OSU	June 1979
8. Maintain closer association with USAID missions in the respective countries to ensure fuller support and inter-	OSU	Continuing

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS			10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT		
<input checked="" type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify)	A. <input type="checkbox"/> Continue Project Without Change		
<input checked="" type="checkbox"/> Financial Plan	<input checked="" type="checkbox"/> PIO/T		B. <input type="checkbox"/> Change Project Design and/or		
<input checked="" type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify)	<input checked="" type="checkbox"/> Change Implementation Plan		
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P		C. <input type="checkbox"/> Discontinue Project		

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)		12. Mission/AID/W Office Director Approval	
Keith M. Byergo, DS/AGR/FCP, Project Manager Dr. Dean Peterson, DS/AGR, 8/17/78		Signature <i>T. Babb</i>	
		Typed Name DAA/DS/FN, Mr. T. Babb	
		Date	

8. (Cont'd)

action with host governments.

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|---|-----------|------------|
| 9. Arrange for one or two members of the O.S.U. staff to present a seminar on their weed control work to AID central and Regional Bureaus and technical and administrative staff. | OSU/AID/W | March 1979 |
| 10. Consider expansion of project to include research on serious weed problems of Africa and the Near East. | OSU/AID/W | Sept. 1979 |

For information regarding the project details, please contact Mr. Keith Byergo. He can be reached on extension 235 8886 or you may write to him at the following address:

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Washington, D. C. 20523

PROJECT EVALUATION SUMMARY

Weed Control Systems for Representative Farms in
Developing Countries - AID/ta-C-1295

Turrialba, Costa Rica

August 21-23, 1978

13. Summary:

The programs in Central America and Asia are well established and excellent progress is being made toward accomplishing goals. The work in Central America shows clearly that greatly improved weed control systems are feasible on small farms. Larger crops can be grown on less area with reduced inputs thus releasing land and labor for production of cash crops. The socioeconomic aspects of weed control and relationship to other production costs are being studied both in Central America and Asia. More inputs for this type of work are recommended. The training of weed scientists in both geographical areas is progressing well and several new weed scientists are working in this field as a result of the programs. The support work at Corvallis on small equipment and new techniques should be very helpful in developing suitable weed control systems for small farms.

14. Evaluation Methodology:

The review was conducted at CATIE in Turrialba, Costa Rica. This proved to be an outstanding method as the team was able to observe actual weed problems and experiments and to meet local Oregon State and CATIE staff. Corvallis and Turrialba staffs presented an excellent review of the projects the first morning. This was followed by a half day field trip of CATIE and adjacent areas. The second day was devoted

entirely to a trip to view weed control experiments and problems in the high rainfall Atlantic lowlands. Meetings were held the third day in San Jose with AID officials and the review team had in depth discussions with the O.S.U. staff.

The review team included Keith Byergo, Project Manager, Blair Allen, Latin American Bureau, Professor Earl Heady, Iowa State University and member of AID's Research Advisory Committee, Professor G.F. Warren, Purdue University, and James Murphrey, ROCAP/Costa Rica.

Those making presentations were:

Dr. Stanley Miller, Director, IPPC
Mr. Larry Burrill, Weed Research Specialist, IPPC
Dr. Frank Conklin, Agricultural Economist, IPPC
Dr. Jack Davis, Director, Agricultural Experiment Station, Oregon State University
Dr. Eduardo Locatelli, Weed Research Specialist, IPPC, Costa Rica
Mr. Myron Shenk, Weed Research Specialist, IPPC, Costa Rica
Dr. Santiago Fonseca, Director, CATIE, Costa Rica

15. External Factors:

In Central America and the Philippines the O.S.U. staff have established close cooperation and coordination with many institutions including the host location. The major problem identified is the lack of a regular staff counterpart in weed control at CATIE. Action to solve this problem is given under point number 2 of Section 9.

16. Inputs:

Inputs in Central America and the Philippines as well as at Corvallis are all in place and functioning well. However, at least a two year extension of the project will be needed to accomplish the goal. As indicated in item 3 under Section 9, the review team recommends additional staff to accomplish the socioeconomic objectives of the project.

17. Outputs:

In Central America effective and economic weed control systems have been developed which are reaching the stage for recommendations. In Asia good progress is being in this area.

The training programs continue to be unusually successful. In Latin America seven new full-time weed scientists have been trained since 1976 or are now in training. In the Philippines six new weed scientists are on the job or now in training as a result of the OSU project. Many more have received training in short courses and working with OSU staff.

18. Purpose:

The project purpose is: a) Develop weed control systems for small and medium farms in selected developing countries to increase crop yields; b) Evaluate the new weed technology in terms of the social and economic goals in LDCs; and c) Improve weed research capabilities of the LDCs to increase food crop production and welfare of rural population.

In Central America excellent progress is being made in developing effective weed control systems that increase yields, reduce erosion and are economically feasible. Staff is active in the Philippines with several experiments in progress.

Considerable economic data has been gathered both in Costa Rica and the Philippines on the importance of weed control in small farm crop production. Data on the effect of various systems of weed control on both hired and on-farm labor, yield, net return, etc. are giving valuable information for decisions on recommended practices. For example,

it was found that on small farms over 50 percent of the total cost of corn production in Costa Rica and of corn and rice production in the Philippines was for weed control. Furthermore, most of the labor for weed control was supplied by the family. When this information is considered together with field research data showing that hand weeding is extending over such a long period that weeds are reducing yields, the need for better control systems is obvious. Improvement in labor efficiency in weed control can release some of the family help to grow additional crops as well as increasing yields.

Small herbicide application equipment is being tested and modified. With this equipment, small farmers can use modern weed control technology with a minimum of capital input.

A new application technique is showing promise where bean seeds are coated with an herbicide to which they are tolerant. This is a very economical way of controlling weeds around the crop seedling.

19. Goal/Subgoal:

The goal of this project is to increase the quality and quantity of food crop production and the welfare of small and medium size farmers of the cooperating LDCs by assistance in integrated weed control.

The review team believes that good progress is being made in Central America toward meeting the project goal. Systems of no-till corn and bean production have been developed using mulches and a minimum of capital inputs which are both feasible and economically sound for the farmers of this area. On small farms where experiments are being conducted, the farmers are adapting the methods of weed control which prove to be best in the experiments. This is good evidence that the systems are valid. The work in Asia was started more recently but good progress is being

made in evaluating the economic situation, finding cooperators and establishing experiments.

Training of personnel in weed science is having a great impact. During the life of the O.S.U. projects the staff have given counterpart training over extended periods to 31 persons in South America, 20 in Central America and 6 in the Philippines. In short courses and workshops training in weed science has been given to 245 people in South America, 245 in Central America, 144 in Asia and Pacific Islands and 5 in Africa. Several weed science societies have been formed in the LDCs with O.S.U.'s help and encouragement. These developments should hasten the attainment of the project goals.

20. Beneficiaries:

LDC research staff receive direct benefit in this project by learning new research methodology both of a general nature and specific to weed control. The research staff are provided with weed control systems which can be adapted to local conditions. The extension staff have available a package of weed control technology that can be dispersed to LDC farmers.

21. Unplanned Effects:

The delay in posting the Asian team was unplanned and has resulted in the need for more time to attain the projected outputs.

The no till/mulch system of production evolving from the research resulted in the identification of the need for more effective means of planting. The OSU staff has recognized the need for a better hand planting tool that will work in mulch. The possibility of modifying a

planter so that a high-phosphate fertilizer can be placed near the weed is being investigated and will require additional support by various departments within OSU. OSU is arranging for this additional input.

22. Lessons Learned:

a. The opportunity for employment in rural areas of Central America is much greater than in Northeast Brazil. Thus the weed control systems that are most suitable from a socioeconomic standpoint will be different. The situation will vary between countries both with climate and soil, and with the economy of the country.

b. The no-till systems that show such promise in Costa Rica can be readily adapted by farmers since most of them do not plow at present. Elimination of tillage may, with modifications, solve problems in other crop-climatic situations. For example, a bad "dust bowl" situation in the Nicaragua cotton area may be solved by using herbicides and zero tillage.

23. Changes in Design or Execution:

The action recommendation to increase the socioeconomic, on-site staff in Central America and Asia is based on the present limited staff inputs to accomplish objectives in this area.