

UNITED STATES GOVERNMENT

Memorandum

49
931-1155

Notes, 9/25/77
PD-NAC-857
~~1156-3178153~~
1155-3178193

TO : TA/PPU, Mr. Robert Simpson

DATE: January 3, 1977

FROM : TA/AGR, Leon F. Hesser *lfh*

15N 38121

SUBJECT: Approval Request for a Utilization Activity - Title: Cassava Pest Management Workshop - International Center for Tropical Agriculture (CIAT), Cali, Colombia - November 7-12, 1977

A. Background

This workshop comes at a crucial time in the development of cassava as an important food crop for man. Cassava has received little attention by "modern" science until recently. At present almost no pesticides are used on cassava throughout the world. As higher yielding, high quality cassava varieties are developed and as tropical countries intensify their cassava production, increased demands will be made to use pesticides on cassava. It appears that by using a combination of varietal resistance, biological control, cultural practices, insect attractants, juvenile hormones, and other nonpesticide methods, pesticide use can be kept to a minimum in cassava and only used occasionally and where needed for a specific problem or outbreak.

The formulation of a sound cassava pest management system and carrying the results to the field to the small farmers that grow cassava seems most worthwhile and timely. Efforts are taking place in this area at CIAT and the International Institute of Tropical Agriculture (IITA) as well as a few tropical countries, but this workshop could act as a catalyst for the initiation of large scale cassava pest management systems using the experience from previous pest management systems from other crops and thus avoiding the errors and pitfalls inherent in any new pest management system. The interaction of knowledgeable cassava pest scientists with recognized world authorities in pest management, biological control, epidemiology, taxonomy, and the other disciplines necessary to build a sound system for cassava pest management should stimulate, give prestige to, and encourage real efforts to take the accumulated information on cassava plant protection out of the laboratories and libraries and put it into the field into the hands of the small farmers who ultimately have to apply it.

Cassava is a crop grown by the small farmer of the tropics and his well-being is often dependent on how well he can control pests. Cassava pests contribute significantly to reduced yields and high food costs. If losses are to be reduced, the inadequate cassava protection practices in the tropics of the Americas, Africa, and Asia must be improved. For example, Indonesia produces over 10 million tons of cassava and no crop protection specialist in cassava has been identified to date in that country.



On an annual production basis, cassava ranks seventh in the world with 100 million metric tons. Refer to Table, page 3. It is the major food of over 300 million people in tropical Asia, Africa, and America.

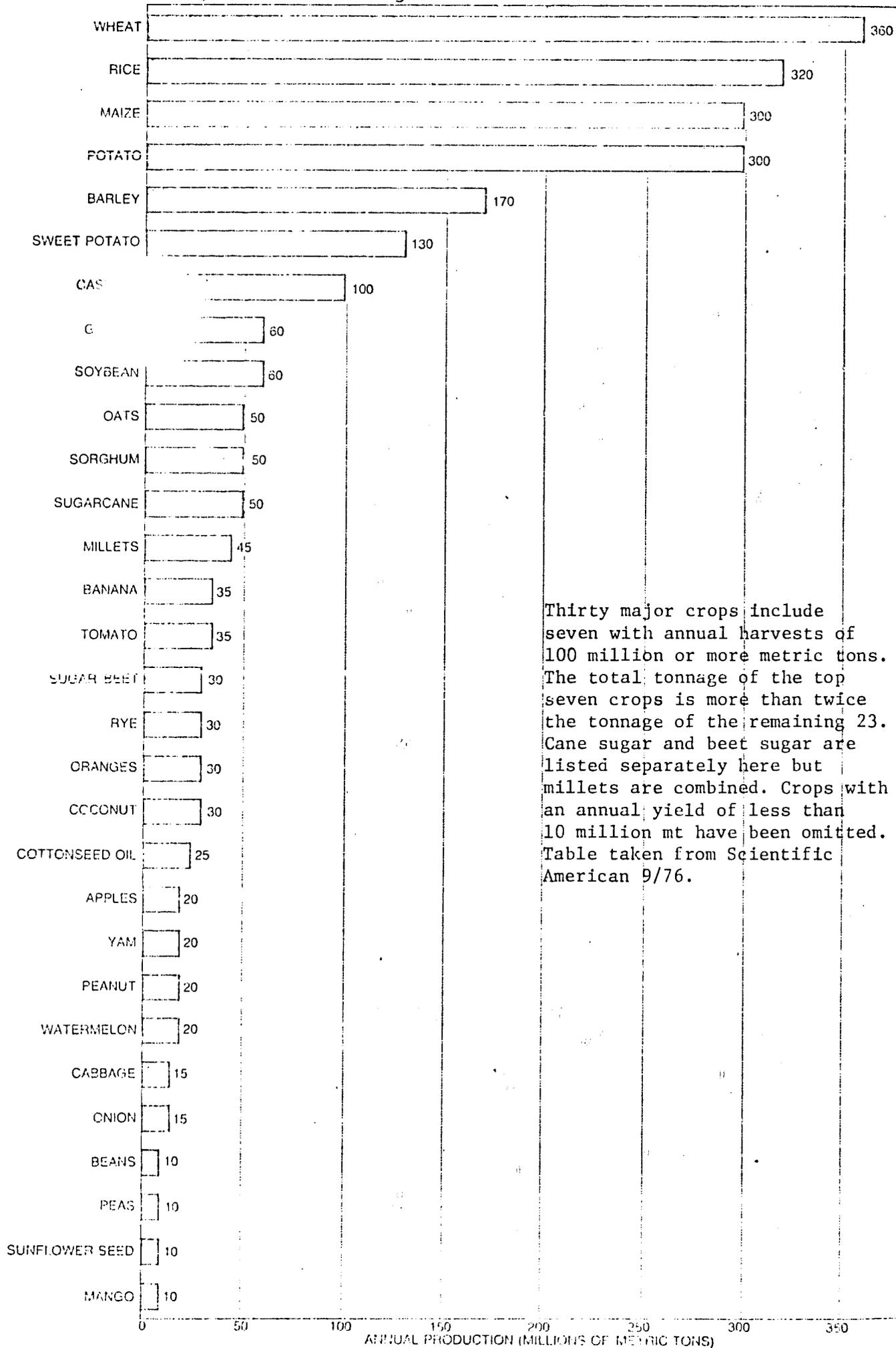
B. General Purpose and Specific Objectives

It is proposed that the most knowledgeable cassava pest scientists available, representing the major cassava growing areas of the world, be invited to the workshop. In addition, key scientists, representing the best available expertise relevant to the formulation of principles for integrated control of pests of the cassava crop, will be invited to participate. The number of invited participants will be limited to thirty to facilitate communication and maintain high standards. All participants will be working during the workshop towards the goal of producing a published document summarizing the accomplishments of the conference. The objectives of the workshop will be to:

1. Critically analyze priorities and the status of knowledge on losses from insects, diseases, weeds, and other pests.
2. Analyze priorities relevant to the formulation of principles for an integrated cassava pest management system.
3. Attempt to achieve worldwide standardization of methods of compiling information on diseases, insect damage, experimental design, etc.
4. Seek agreement on the taxonomy and nomenclature of common disease agents, insect pests, and nematodes.
5. Make joint recommendations on procedures for monitoring the spread of cassava pests and disseminating information on threatening pests not present in some geographical regions.
6. Itemize training needs for institutions in regions conspicuously lacking in cassava research staff.

C. Workshop Work Plan

To accomplish the objectives the workshop will be organized as follows:



Thirty major crops include seven with annual harvests of 100 million or more metric tons. The total tonnage of the top seven crops is more than twice the tonnage of the remaining 23. Cane sugar and beet sugar are listed separately here but millets are combined. Crops with an annual yield of less than 10 million mt have been omitted. Table taken from Scientific American 9/76.

1. Status papers - Joint session of all participants.

- a. Americas
- b. Africa
- c. Asia

These papers will be prepared jointly by entomologists and plant pathologists who would also seek input from nematologists and weed scientists. The papers will be prepared in advance, presented at the first session, and discussed and modified by a committee for final publication. These are key papers as they will help to establish priorities for future research on cassava protection. The papers would be expected to include economic losses, distribution, relative importance, and priorities.

2. Discipline sessions.

a. Plant Pathology and Nematology.

Discussion sessions will be held on the priority diseases and nematodes of cassava. Each subject will be thoroughly analyzed and discussed and a final version will be prepared for publication. Lead analysts will be assigned for each subject, and they will be responsible for preparing the final document on their subject. Each subject will result in priorities and standardization of recommendations for:

- (1) Symptomatology
- (2) Etiology
- (3) Epidemiology
- (4) Control

A suggested program might be:

- (1) Cassava bacterial blight
- (2) African common cassava mosaic
- (3) Cercospora spp.

- (4) Diseases of vegetative propagating material
- (5) Diseases of secondary importance
 - (a) Phoma leaf spot
 - (b) Superelongation disease
 - (c) Nematodes
 - (d) Root rots and postharvest deterioration
 - (e) Others

3. Entomology.

The procedure in entomology should be somewhat different. Papers will be given on major insects:

- a. Mites
- b. Horn worm
- c. White flies
- d. Secondary pests
- e. Potential pests
- f. Pests of the establishment phase of the cassava plant

4. Integrated Control and Biological Control

Pests will be analyzed and the status of knowledge and priorities for research will be made in the following:

- a. Identification and taxonomy
- b. Methods of control
 - (1) Resistance
 - (2) Biological control
 - (3) Cultural control

(4) Chemical

(5) Attractants, juvenile hormones, growth regulators

5. Joint Session of all Participants.

The results of the Discipline Sessions 1 and 2 would be presented by the lead analysts in this session in order that all participants share in the output.

6. Joint Session - Integrated Control.

A paper by an entomologist and a plant pathologist on the possibilities of a cassava pest management system utilizing the principles and methods of integrated control will be presented. Subsequently this paper will be discussed, analyzed, and joint recommendations will be written up by the participants of the workshop.

Weed scientists, breeders, and agronomists with expertise in cassava (probably from CIAT) will be invited to this session to assure their input into the pest management plan.

7. Task Force Committees.

During the course of the conference committees or task forces will be appointed to produce a document (essentially in the form of a project with recommendations) on the following subjects:

- a. Priorities for future research on cassava plant protection.
- b. Standardization (taxonomy, nomenclature, testing procedures, common names of pests, experimental design, systems for compiling information on insects and disease damage, etc.)
- c. Formulation of an environmentally sound integrated cassava pest management system.

D. Participants

The representatives from CIAT indicated a willingness to host the conference, at CIAT headquarters near Cali, Colombia. CIAT entomologists are working with plant pathologists, weed scientists, breeders and cassava production scientists in formulating a cassava pest management system for their conditions. Therefore, CIAT and its staff will serve as a base upon which to build.

The International Institute of Tropical Agriculture will send four to the workshop.

The International Development Research Centre (IDRC) will send an editor and possibly another staff member to assist in the preparation and collection of papers to be included in the proceedings.

Technical Assistance Bureau, A.I.D., will fund 21 participants, all of whom will be presenting papers or assigned tasks of preparing papers for publication.

E. Publication and Utilization

The International Development Research Centre is willing to publish the proceedings of the workshop as part of the series of IDRC cassava publications in cooperation with CIAT, IITA, and A.I.D. As these publications are well known worldwide and of high standards and quality, it would be most desirable to publish them as part of the IDRC series. A.I.D. will pay for the publication and IDRC will supply and fund the editorial staff. Three-thousand copies of the proceedings are requested. The publication will be considered the final report. The target date for publication is four months after the conference in March 1978. A.I.D. will receive one-hundred copies and the remainder will be distributed gratis by IDRC.

F. Budget

1. Funded by A.I.D.

| | |
|--|------------|
| a. 21 participants travel @ \$700 each | \$14,700 |
| Per diem @ \$26 x 10 days | 5,460 |
| b. Publication cost - 3000 copies | 7,420 |
| c. Bilingual secretaries - 2 x 7 days @ \$30/day | <u>420</u> |
| Total | \$28,000 |

2. Funded by IDRC

| | |
|---------------------------------|-------|
| a. 2 participants at conference | 1,920 |
| b. Publication editing | - |

3. Funded by IITA

| | |
|----------------|-------|
| 4 participants | 3,840 |
|----------------|-------|

4. Funded by CIAT

- a. Meeting hall, transportation, translation, invitations
- b. 5 participants

G. Environmental Assessment

The workshop per se will not have any impact on the environment. In formulating recommendations of pest management systems for cassava, environmental implications will be considered.

H. General Assessment and Recommendation

Although cassava is a major food of over 300 million people (Primarily the poor farmer) in the tropics, information on management of cassava pests, especially when compared to other major food crops, is negligible. Cassava pests are a major reason for poor cassava yields and high food costs. If losses are to be reduced, the inadequate cassava protection practices in the tropics of the Americas, Africa, and Asia must be improved.

This workshop will attempt to bring together the most knowledgeable cassava pest scientists in the world to present papers on the status of knowledge of cassava pest protection in the major cassava growing regions of the world. This information will give a sound set of priorities on the relative importance of cassava pest on which to establish realistic research priorities for the future.

The workshop would be a joint venture of CIAT, IITA, IDRC, and A.I.D. A.I.D. and IITA will provide travel expenses for invited speakers, and CIAT will provide the facilities for the November 7-12, 1977 meeting at CIAT headquarters in Cali, Colombia. Papers, proceedings, and recommendations resulting from the conference will be jointly published by IDRC and A.I.D.

APPROVED: Robert Simpson

DISAPPROVED: _____

DATE: _____