AGR-NE-Sorghum.

MEMORANDUM

TO: THE FILES DATE: December 3, 1970.

FROM: Marion Frazão, HNFD
Nutrition Programming Coordinator

SUBJECT: Meeting on Mandioca - Fortification and Genetic Improvement

PRESENT: Dr. John Ayres, head of Food Technology Dept., Univ. of Georgia
Dr. Walter Mors, Institute of Food Technology, Rio
Harlan Davis, ARDO
Marion Frazao, HNFD

Mr. Davis advised that USAID/Brazil was considering an integrated program in mandioca that would cover:

1. Increased productivity of land, labor and capital used in production.
2. Improved nutritional quality for human and animal consumption.
3. Increased profitability of production.

HNFD would cover the nutritional aspects, and ARDO the genetic improvement, but both would work in close collaboration. He had discussed it with Dr. Roberto Meirelles, head of EPE, who was enthusiastic as mandioca is one of the priorities of the Ministry of Agriculture. In order to ascertain the feasibility of AID becoming involved, a team from the University of Georgia would be brought down, probably for 1 or 2 months, to make a preliminary study. The team would probably include a research extension specialist; a production economist; a food technology and food scientist; and a crop scientist and/or marketing specialist. The team would make recommendations as to whether this is something AID should support in conjunction with GOB efforts, and how to support it. The project would probably be centered in the NE, and hopefully would fit in with Dr. Mors' project. The date of the team's visit is not yet defined - but in discussion it was determined that it probably would be in June/July next.

Dr. Mors suggested setting up a counterpart team of Brazilians, with exact parallel capabilities as the American members, to work together - for better exchange of information and discussion of technical problems. The whole visit should be organized by a carefully chosen man, familiar with such matters and also speaking English, to take care of the entire group.

There was some discussion of Dr. Mors' possibilities of working with, and through, entities in the NE, as the project will have financing for that area. After some discussion it was decided that probably the IPEANI in Recife would be the best entity as it is a "sister" organization to ITA. From the nutrition standpoint, we are already working with Dr. Nelson Chaves of Recife in the mandioca fortification project, so this would permit better local coordination also.

Dr. Ayres felt that the long-range potential for mandioca improvement in Brazil is very great, and that increasing yield is most important (low yields are appalling by U.S. standards: average Brazilian yield is 10-15 T per hectare where in U.S. would be 70-80 T per hectare. A change in the varieties might also be possible and advisable; there is work being done genetically to produce varieties with 6-7% protein, and Dr. Jennings at CIAT (Cali, Colombia) has a variety with up to 14%, but which has to be propagated by seeds (like corn - however this is easier than planting the stalks, so should be investigated further). As regards fortification, in view of the fact that in some areas mandioca flour is eaten almost always with other foods such as beans, and in other areas it is eaten alone, consumption patterns would have to be examined by regions in order to choose the most appropriate fortification. He added that the demand for mandioca is tremendous - Guatemala, Germany, U.S. and supply is much below demand - increased productivity is important.

Dr. Mors commented that in selecting the team, there is a need to consider factors other than their technological capabilities - most important is their attitude towards Brazil, and ability to work with Brazilians. Suggested that a little prior study of Portuguese (or Spanish) language might be advisable, perhaps not so much for actual need to use it, but to demonstrate interest.

Some discussion of places for team to visit to make this study, and general agreement that working in close collaboration on nutritional and research aspects would be beneficial to all concerned.

MF/mamf

cc: MForman, TAB/N
IHornstein, TAB/N
HRice, TAB/N
DRosenfield, FEDS/USDA
HDavis, ARDO

TRIP REPORT

Araruama and Magé

(Mandioca Fortification Project)

December 2, 1970

Marion Frazão

PARTICIPATING: Dr. & Mrs. John Ayres, head of Food Science Dept., University of Georgia
Harlan Davis, ARDO
Peter Davies, HNFD
Maria José Paes Leme, Coordinator (ITA) Mandioca Project
Marion Frazão

We visited 3 mandioca processing mills in Araruama and one in Magé:

1. "Engenho do Zizinho" (on direct Araruama/São Vicente road): Small mill, producing for household use only - lack of mandioca roots so producing only once a month. Large wheel with cord belt provides grinding power. ("Not worth producing for sale, they don't pay what our effort is worth")

2. "Engenho do Benjamin" (off Araruama/Rio Bonito paved road, first right after Ypiranga gas station) - not functioning, no roots, shortage of mandioca. Converting into garage and mechanical repairs - "not worth manufacturing mandioca flour"

3. "Engenho do Joel" (Boa Vista) - this was the same one visited with the mandioca team from Washington - with small armazem attached. Very picturesque: half a dozen small children peeling roots (earn Cr$.50 per big basket, do one or two baskets per afternoon - earn around US$.10-15 for 3 or 4 hours work). Mule-power. Joel not there, little information on market.

4. In SURUI (right turn at train crossing at quarry, Rio/Terezópolis road) - Sr. Anibal (first left over bridge). Small mill, but very fine farinha, very white as peeled roots are washed before grinding. Extracts polvilho (starch) during pressing process, sells for same price as farinha with no effort to make or process it (Cr$1.00/kilo). Produces about 120 50/Kg sacks per month, sells all production to the feira in Duque de Caxias. There are 16 other mandioca producers, all small, in Surui. I asked why they didn't get together into a cooperative or amalgamate - Sr. Anibal said he had many sons, and wanted the mill for them - if he joined with others, his sons wouldn't be the owners of the business. Wholesale price of the farinha is Cr$40 for 50/Kg sack, or Cr$1.00 when bought by the kilo. Thus, with cost of Cr$.80/Kg, the retailer must sell this product for at least .90-1.00 to make a profit - thus making it an expensive item, almost double the price of beans and/or rice of cheapest quality. Still Sr. Anibal said he sold all he could produce.

Much discussion on return trip concerning the economics study to be undertaken; decision made to visit Cidade de Deus to see if it might serve as starting place - and to have lunch with George Patrick next week to discuss in more detail the questionnaires he is working out.

MF/mamf

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