

Getting down to the roots

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When the talk turns to food production most people tend to think of the major cereal grains such as wheat, rice and sorghum. Root crops, although they are a staple part of the diet of many of the world's peoples, have been largely ignored until recently, especially by the scientific research community.

The growing threat of serious worldwide food shortages, however, has generated a new interest in all potential food sources over the past few years, and root crops are no exception. Just how much things have changed was demonstrated in August when 170 scientists, students and government officials from 42 countries assembled at CIAT (the International Centre for Tropical Agriculture) in Colombia, for the Fourth International Symposium on Tropical Root Crops. It was an appropriate location — two of the major root crops, cassava and potatoes, were first put to domestic use here in South America, and CIAT is a world leader in cassava research.

The symposium was organized by the International Society for Tropical Root Crops, and sponsored by CIAT, the IDRC and the US Agency for International Development. Participants had the opportunity to hear more than 50 papers presented by scientists from all over the world, and dealing with topics as varied as the history of root crops and the use of cassava foliage as chicken feed.

Nor were the scientists concerned only with the more common root crops. Any crop which offers potential as food is carefully investigated today, reported the society's new president, Dr Donald

Plucknett of the United States. By way of an example he described the enormous potential and methods of production of *Cyrtosperma chamissonis* — a lily-like plant with a starchy root that is common in the South Pacific, but was only recently "discovered" by researchers.

A particularly encouraging sign was the large number of young people, especially young women, at the symposium. In his opening presentation on the evolution of cultivation of tropical roots, Dr Jorge Leon of Costa Rica spoke of women's role in the transition from collection to cultivation as part of "one of the most important processes in history."

Today's women, or at least those represented at the symposium, are still pioneers, although their approach is now much more scientific. From the Malaysian Agricultural Research and Development Institute came Swee Lan Geh, a plant pathologist, and Swee Lian Tan, a plant physiologist. Both graduated from the University of Malaya and are currently receiving training at CIAT on work with cassava. Swee Lan reports that in Malaysia cassava is used mainly for industrial purposes, and not for human consumption. However, it is now being developed as animal feed in a project that is also directed by a woman.

From Brazil was Wania Freire Gonçalves, an agronomist in the plant-improvement program for cassava at the Brazilian Institute of Agricultural and Livestock Research. She too has been studying at CIAT, but will shortly be returning to Brazil, which, as one of the

world's leading cassava producers, is making enormous efforts to improve the crop.

From Jamaica, agronomist Cynthia Weir is currently working with cassava, sweet potato and yam at the University of Guelph as part of a cooperative program involving the IDRC, the University of the West Indies and the Jamaican Ministry of Agriculture. Cassava, she says, is grown only by small farmers in Jamaica, and yields are low. By increasing cassava production and substituting cassava flour for wheat flour, the country could reduce expensive imports.

One of the most attentive listeners at the symposium was Endy Pais, of Papua New Guinea, who at 22 was also one of the youngest delegates present. He recently graduated with the first class of agronomists from the University of Papua New Guinea, and is one of only 10 native agronomists in the newly-independent island nation. Seventy percent of the country's people live in the rural areas, and it is here that he has been working for the past year. Pais's main interest is the sweet potato, which is a staple food in Papua New Guinea.

Another former student of CIAT's cassava program, Dr A.G. Ngongi, of Ghana, presented a paper on the effects of potassium on cassava. He is currently working with his country's Institute for Soil Research on a project studying soil fertility, multiple cropping and factors limiting the production of food. With one of the lowest percentages of rural population in Africa, Ghana has recently started a "feed yourself" program, with the emphasis on the increased use of local resources.

Potatoes, the Andean crop *par excellence*, also came in for a good deal of discussion at the symposium. Humberto Mendoza, of the International Potato Center in Peru, spoke on the adaptation of potatoes to humid tropical zones and the promising research the Center has carried out in this field. Recently 11 Southeast Asian countries, meeting at a seminar in South Korea, expressed considerable interest and requested information on the possibility of cultivating potatoes, he said, and similar interest has been expressed by some Central American countries.

The proceedings of the symposium, including all of the papers presented, summaries of discussions and a list of the participants, will be published early in 1977 by the IDRC. Copies will be available through the Centre's Publications Division. □



Attentive participants during symposium session.