

*Dr Simon Ngale Lyonga is an agronomist and director of the Institute of Agricultural Research (IAR), at Ekona, near Douala, Cameroon. IDRC met with him to discuss his research into root crops, particularly the yam.*

*From 14 to 19 August 1983, the Second Triennial Symposium of the International Society for Tropical Root Crops — Africa Branch will be held in Douala, Cameroon, under the auspices of the National Tuber Improvement Program, IAR, and the General Delegation for Scientific and Technical Research. About a hundred African researchers will gather to discuss the production potentials of root crops.*

*"This symposium," says Dr Lyonga, "clearly shows that Africa now has greater resources at its disposal to carry out the research required to ensure its development."*



*Dr Simon Ngale Lyonga*

# YAMS

## HAVE THEIR REASONS

JACQUES DUPONT

**IDRC:** Dr Lyonga, you have been interested in yam research for a long time. Why is that?

**Dr Lyonga:** During the 1960s, the Cameroonian government wanted to put a stop to the massive importation of yams from Nigeria. In 1968, it set up a program, the West Cameroon Yam Scheme, to supply germ plasm materials and strategies to the Ministry of Agriculture. We collected 114 yam specimens, and established 69 cultivars and 9 species — three of the species were completely unknown in Nigeria, which is by far the world's greatest producer of yams. A good many of the varieties we inventoried had been imported from Nigeria. We evaluated the nutritional qualities of the yam — including the crude protein content, which in some species came to 11.5 percent — and tested promising varieties with consumers.

**IDRC:** How long did all this take?

**Dr Lyonga:** We actually started in the early 1970s and finished in 1974 or 1975. We then went on to examine ecological and environmental factors — which varieties could be grown on the highlands, which at lower altitudes and on the low plateaus. We were able to identify 10 elite varieties: two adapted to the highlands, three to the low plateaus, and five to all altitudes and climatic conditions. Of course, other factors — spacing, staking, fertilizer requirements, harvesting, weeds and diseases — were examined as well.

**IDRC:** That's a lot of new information.

**Dr Lyonga:** Yes. And we wanted to share it with the peasants. You know, 90 percent of the people of Cameroon are rural people. Most of them grow yams and eat them two or three times a week.

**IDRC:** So what did you do?

**Dr Lyonga:** Well, the government allocated 37 million francs CFA (about CAD\$148 000) to us, so that we could put together an information package on yam production for agricultural extension workers to take to the peasants. We also produced 100 tonnes of setts (seed pieces), but never succeeded in meeting the demand. I should point out that one hectare of yams provides enough setts for planting only three or four hectares. Each hectare takes half a tonne of setts. Imagine the difficulties. In the case of rice, each hectare supplies about 50 hectare's worth of seeds! And it takes two or three years before a crop of yams can be harvested — the yield is too small and the waiting time too long.

**IDRC:** Then there is not much incentive to grow yams?

**Dr Lyonga:** Even compared to other tubers, yams require

a great deal of investment. The investment for sweet potatoes is 40 000 to 60 000 francs CFA per hectare; for cassava, about 45 000 francs CFA. But for yams, the figure is 300 000 CFA. The difference is enormous for small farmers.

**IDRC:** Then why do they continue growing yams?

**Dr Lyonga:** Because they like them. You can't change eating habits over-night. Luckily, Cameroon eventually came to export yams to Gabon, the Central African Republic, and other countries — mainly as a result of the government's research and extension work.

I'll tell you a story. At one time, Nigeria wanted to discourage its people from growing and eating yams. When production went down, you know what happened? Imports shot up. The yam is a basic part of Nigerian life. It has a religious significance, it's enjoyed at harvest ceremonies, and so on. That explains why Nigeria had to continue producing yams after all, and why it now produces 60 000 000 tonnes per year. Cameroonians also like to eat yams — two or three times per week, although the price is double or triple that of plantain, for instance.

**IDRC:** Is the basic research on yams complete?

**Dr Lyonga:** No; not at all. Let me describe what yams should be like in the future. The plant should be sturdier, so that there would no longer be any need for staking, which is very expensive in terms of labour. The tubers should be rounder and closer to the soil surface, so that harvesting can be mechanized. Right now, this is out of the question. As well, yams should have a higher protein content and a lower carbohydrate content. It should be possible to develop yams that yield more setts. At the regional conference of the International Institute of Tropical Agriculture held at Ibadan in 1980, the participants agreed to form a committee of specialists — agronomists, economists, pathologists, etc. — to look into these various improvements.

**IDRC:** And once the research has been done, how will it be used?

**Dr Lyonga:** Here, as elsewhere, agricultural extension work is tremendously difficult. Just after receiving my first degree in agronomy, when I was an agricultural extension worker, do you know how many farmers I was responsible for? In a similar job in Europe or America, an extension worker would have 200 to 300 farmers to visit. I had 10 000. Just imagine. I couldn't even *hope* to meet them all. Of course, Cameroon needs people trained in all areas, including agricultural extension.

**IDRC:** One last question. What do you foresee for the yam?

**Dr Lyonga:** I think that, eventually, people will stop eating so much yam and will therefore grow less of it. It will become more of a garden crop. □