

### DISCUSSIONS

*Dr. Rogers :*

Amongst the cassava varieties, do the farmers make any distinction amongst their varieties, concerning the prussic acid or the HCN content?

*Mr. Doku :*

No, they do not. I suppose that HCN is related with palatability or sweetness, the more HCN, the more bitter they are. Most of our varieties are on the sweet side.

*Dr. Rogers :*

Is there a standard processing methodology used by the natives to prepare such things as fufou.

*Mr. Doku :*

Well, I suppose so. I should say that there is a standard practice of boiling and beating to a paste. The boiling is supposed to remove the HCN, it is very volatile.

*Dr. Rogers :*

Is grating of the tubers a usual practice?

*Mr. Doku :*

There are two types of fufou. In Sierra Leone, what we call fufou is different from fufou in other parts of West Africa. In Sierra Leone the cassava is first grated and made into a dough and put into boiling water, and stirred into a thick constituency. In other parts of West Africa the cassava or coco yam is boiled first and then pounded into a paste.

*Dr. Rogers :*

You did not make any mention at all of practices that had been reported, namely, that the foliage of these plants is utilised. What do you think about this? Is this a standard practice, or what?

*Mr. Doku :*

I am sorry that I did not mention this. In Sierra Leone, it is not general in all parts of West Africa, it is a standard practice to use the young foliage. In Ghana the young shoot of *Xanthosoma* is used as a spinach. It is very popular. And the dry peel of the cassava is fed to livestock — goats, sheep and so on.

*Mr. Gooding :*

I find myself in considerable sympathy with Dr. Doku's last point about English potatoes in the tropics. We have a very wide variety of very good tuber roots and, as was shown in one paper this morning, sweet potato can have extremely high nutritive value and I don't think that you will find 'English' potatoes anywhere that can match up in general, in nutritive value with some varieties of sweet potato. Nevertheless, rightly or wrongly, there is a demand for them. In many cases, for the wrong reasons, we are seeing a demand arising in Barbados which, in my opinion, is largely because they have a certain snob value. However, the demand is there to the extent that a small country like Barbados is importing something like a million dollars worth of English potatoes a year, which is absurd. But there it is. So what are we to do? We can either have a complete prohibition of imports, in which case, people will complain that their standard of living is being arbitrarily cut, or we could carry out research intended to try to supply this from local sources which, of course, is what we have to do. I think it wrong but we have to do it. So I am in considerable sympathy with Dr. Doku on this, but we find ourselves in this same situation. May I suggest that you might be interested in trying the same variety that is showing fairly substantial promise in Barbados at the moment. An American variety called Redlasoda, which was developed, I believe, in Louisiana and has proved

to be of considerable importance in the Florida potato industry, being suitable for summer growing.

*Chairman :*

It looks as if we should have a sociology section in the next symposium.

*Dr. Trujillo :*

In view of the fact that *Pseudomonas solanacearum*, the cause of bacterial wilt in the tomato, is widely spread in tropical soils, I wonder if the Irish potato will be a crop of any importance in tropical areas? I'm talking now, about lowland elevations. This bacteria operates very well when soil temperatures are above 75°F and so this is rather doubtful, that any of the varieties that are available today, have any resistance to this disease.

*Mr. Doku :*

I must say that in Nigeria they are growing potatoes quite successfully on the Baulchi plateau. Mr. Coursey might wish to comment on it, but he was telling me that disease has started to creep in. I believe that there might be a resistance to this. We do not know, so that we shouldn't rule that out completely.

*Dr. Spence :*

While I agree with Dr. Trujillo that bacterial wilt has to be taken into account, there are a number of races of bacterial wilt. I am not sure that the potato one is necessarily the same that is most widespread in the tropics. But certainly it is something that one will have to take into account in the 'Irish' potato work.

*Mr. MacDonald :*

Just as a point of information. In Kenya the *pseudomonas* bacterial wilt is causing havoc with Irish potatoes, and causes the complete death of the plant, and once the soil is infected, you have to abandon it for potato cultivation. Breeding has done in the national laboratories, agricultural laboratories, just outside of Nairobi, and although this work has only been going on for about three or four years, I am told that resistance is being found amongst seedlings and they are now being selected for their tuber qualities.

*Sr. Montaldo :*

I will give you some more information. In Venezuela we are planting potatoes and we consider potatoes as a tropical plant, as we are planting it at 25°C. and we have no problem with bacterial solanocero. We have it under 20°C in about 1000 metres of altitude, but in the lower parts, 500 metres with 25° we have problems only with *Phytophthora infestans* but we can control it very well.

*Mr. Pilgrim :*

Mr. Chairman, I am very interested in that point which you made including a sociological factor when discussing such matters as root crops in the tropics. This matter, e.g. of Irish potatoes, Mr. Gooding mentioned the fact that there is a certain snob value attached to Irish potato in Barbados. This is true. However, there are other factors which also play a part. There is the fact that the marketing of Irish potato is so much better organised than the marketing of local food crops. There is a very powerful and very efficient mercantile community marketing Irish potatoes. It is easy for the housewife to purchase 1 lb, ½ lb, 2 lbs of Irish potatoes, but it is not so easy to take a yam weighing 5 lbs and chop it into five pieces. The 'Irish' potato keeps well and cooks easily, so there are many factors involved.

*Mr. Haynes :*

There is one other comment that I would like to make about 'Irish' potatoes. We have been growing most of these roots crops here, both in experiments and in commercial production. We find that we can grow a crop of 'Irish' potatoes at half

the cost input that we require for any of the other crops when these are grown on a commercial scale. It is quite true that on subsistence scales, the economics is rather difficult, but the relative costs of inputs between 'Irish' potatoes and the root crops must be borne in mind.

*Dr. Iton :*

Mr. Chairman, I should like to make a small contribution, continuing what Mr. Pilgrim has indicated about the sociological implications of growing 'Irish' potatoes. The problem of storing these root crops is a serious one in the tropics. I should just like to indicate to you, from my experience with the storage of sweet potatoes, that there is considerable advantage in producing crops like the 'Irish' potato.

The example to which I refer is the sweet potato crop in St. Vincent. This crop is grown at about 5 crops in two years on the same land. There is considerable build up of soil fungi, which attack the tubers, remain latent until after harvesting and develop very rapidly, and disastrously on tubers shipped from St. Vincent to Trinidad. There was a particular example of tubers harvested in St. Vincent on Friday, and shipped to Trinidad to arrive on the retail market by the following Tuesday. In that short space of time, as much as 26 to 27% of the tubers were lost because of black rotting.

Now this is quite a serious problem. The housewife will not buy black rotted sweet potatoes, however slight the attack is. But in crops like 'Irish' potatoes, storage does not present the problem that some of our root crops in the tropics present. So despite the fact that there may be high nutritive value in sweet potatoes, there is the problem of very rapid deterioration in storage and in transit.