IDRC FEATURE

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
Box 8500, Ottawa, Canada, K1G 3H9 • Telephone (613) 996-2321
• Cable: RECENTRE • Telex: 053-3753

Words: 725 approx.

REHABILITATING POTATOES FOR PRODUCTION IN THE TROPICS

by BOB STANLEY

The common white potato is so familiar on the dinner tables of the Western world that it is regarded almost with contempt. Its detractors say the lowly spud is just bulk - a source of carbohydrate calories and not much else. But now the potato has a defender, and may soon be able to claim its rightful place among the world's food crops as a valuable source of protein, superior in some respects to cereals such as wheat, rice and maize.

Five years ago the International Potato Centre (CIP) was founded in Peru - an appropriate location, since the cultivated potato originated in the Andean region of South America. And in just a few short years the Centre has done a lot to correct some of the common misconceptions regarding the potato.

The Centre has two principal objectives -- to increase the yielding capacity and efficiency of production in the developing countries where the potato is being grown, and to increase the ecological region of adaptability of the potato, including the lowland tropics. One of its first activities was to establish an outreach program, bringing together a network of regional centres to gather information, to spread the results of research, and to provide training opportunities for young scientists.

Such a network is well justified. The potato ranks along with wheat, rice and maize, as one of the four major food crops of the world. However it owes this prominent position mainly to its popularity and intensive development in the northern temperate zone, and plays only a minor role as a source of food in the tropics.

.../...

Comparisons have shown that the potato consistently produces a higher average yield of calories, proteins and many vitamins and minerals than the other major cereal, root and tuber crops. Furthermore, say the CIP scientists, the quality of potato protein is generally superior to many other plant proteins, and it seems likely that there is sufficient genetic variability to selectively develop varieties with both improved protein quality and increased protein content.

At present about half of the people living in developing countries of the tropics live in areas where the potato grows well. It may also be possible to develop new varieties that will adapt to the lowland tropical areas where at present potatoes do not perform well. This would add enormously to the potato's potential as a much needed source of food in the tropical world.

These facts, says the CIP's Director General, Dr R.L. Sawyer, strongly argue for support of a concerted effort to increase potato production in the developing countries of the tropical world.

There is one major limiting factor, however, and that is the nature of the potato itself. Even in the temperate zones the problems of storing, transporting and marketing potatoes are considerable, and result in great seasonal fluctuations in price. In the hotter, more humid tropical lowlands these problems become almost insurmountable, making the potato a luxury items.

Solutions such as the construction of refrigerated storage or expensive dehydration plants would do little to help the subistence farmer or the small agricultural community. What is needed is an inexpensive, practical, low-energy method for dehydrating fresh potatoes in order to ensure a uniform year round supply.

This, in essence, is the aim of a new project being undertaken by the CIP with the support of the International Development Research Centre of Canada.

The scientists will begin by examining some of the traditional methods used by the Andean hill farmers for centuries to produce products such as "chuño". This is a form of dehydrated potato created by exposing the potatoes to the sun by day and the frost at night over a period of several weeks. Tests so far have shown that, while "chuño" keeps well over extremely long periods, the process destroys much of the potato's nutrient value.

The use of natural elements such as solar energy will be investigated, however, both for drying potatoes and for heating water to blanch them in order to prevent discolouration.

.../...

The development of a "super potato" that can survive in tropical soil conditions will not solve the world's food problems - but it will help. Adds Dr Sawyer: "The problems of storing and transporting potatoes together with unstable annual supply and price structures must not continue to be the unresolved factors that are currently limiting potato production capacities in developing countries."

END

IDRC-F9,e