

Potato

The chips are down

The potato, once neglected by agricultural development policies, is currently in the spotlight. Its potential for improving food security and incomes in many parts of the South has led to new developments in research and marketing.

In terms of quantity, the humble potato tuber (*Solanum tuberosum*) is in the top league. It now ranks as the world's no. 4 food crop, with production reaching nearly 315 Mt in 2006. In 2005, the South's potato production outstripped that of the North for the first time. This versatile plant is ideally suited to places where land is limited and labour plentiful, and produces more nutritious food more quickly than any other major crop. Up to 85% of the plant is edible, compared to around 50% in cereals. In spite of its potential, the potato has been widely neglected by past agricultural development and research policies. But in this, the International Year of the Potato, there are signs that the tuber may be enjoying something of a boom as researchers find new solutions to some of the crop's most pressing problems.

In Africa, the potato was slower to take hold than in the other ACP regions, but it is rapidly developing as a cash crop, especially in upland zones. South Africa leads the field, followed by Malawi, Rwanda, Nigeria and Kenya. Particularly suited to small-scale production, the potato is gaining popularity with consumers. This is especially marked in towns, driven by the growing demand for convenience food, to which the potato lends itself so well. In Lesotho, many farmers are shifting from maize to potato. In Kenya, where it is now the second most important crop, the potato is widely considered a quality foodstuff.

Clean planting material

The seed potato is usually the most expensive input, accounting for 30 to 50% of production costs. Unlike some other major crops, tubers taken from diseased plants transmit the disease to their progenies. According to the Regional Potato and Sweet potato Improvement Network in Eastern and Central Africa (PRAPACE), "the single most important constraint for the production" of potatoes is the chronic shortage of clean planting material. Micropropagation or propagation in vitro offers a solution to the problem, but it is hard for small-scale farmers to gain access to the technology without outside help. Another solution is growing seed potatoes suspended in mid-air (see In Brief). The use of clean seed potato production through farmer-based seed systems and farmer field schools has partially reduced the shortfall. In the village of Bangoua, Western Cameroon, a cooperative has started producing improved seed potatoes, providing a source of income for the farmers and boosting potato cultivation among other producers.

The potato sector has benefited from major recent discoveries about the plant's genetics, physiology and pathology, including an initiative to sequence the potato genome. Potatoes are prone to a number of diseases, among them late blight, bacterial wilt, potato blackleg and a range of viruses. Developing new varieties through conventional cross breeding is difficult and time-consuming. But the use of molecular markers is helping to simplify the process. In a number of regions, scientists are using other new technologies to tackle potato diseases.

Advances in research

In the UK, researchers are decoding the genome of *Globodera pallida*, a highly destructive potato cyst nematode found worldwide. By understanding the make-up of the parasite, scientists hope to use breeding or biotechnology to develop a potato with resistance to the pest.

In Papua New Guinea (PNG), researchers are working on varieties resistant to potato blight. The disease, caused by the fungus *Phytophthora infestans*, has spread rapidly through the highlands of PNG since 2003, devastating one of the region's most important cash crops. "Without income from potatoes, survival becomes a real struggle," said Dr Birte Nass-Komolong of the National Agricultural Research Institute (NARI). Together with staff from PNG's Fresh Produce Development Agency, NARI staff are evaluating some 50 disease-resistant potato clones developed by the International Potato Centre (CIP) for the tropical highlands climate. Four varieties should soon provide seed to local farmers.

In Uganda's Kabale and Kisoro highlands, where potatoes are the main source of income, farmer field school training is teaching integrated pest management techniques which have boosted yields and cut back on costly pesticides. In Kabale, the Nyabyumba United Farmers group is now supplying potatoes for French fries at fast-food restaurants in Kampala.

In spite of the growth in potato production in the South, developing countries are still net importers. Trade policies, with import tariffs and non-tariff barriers imposed by many developed countries, act as a brake to the development of the potato

sector for ACP countries. In Africa, imports of cheap European potatoes and seed potatoes are competing with home-grown products. In Guinea, protests from small-scale potato producers led by the Fouta Djallon farmers' organisation prompted the government to ban imports. As a result, the country now has a flourishing domestic potato sector.

More needs to be done to improve packaging and develop value-added options, says PRAPACE, though the sector is not without its success stories. Advances in the development of varieties suitable for chips and crisps has persuaded small-scale food processors in Kenya to use regionally released varieties instead of imported ones - a major milestone in the push for the potato.

Comments (1)

19-03-2008 14:20

Je remercie les promoteurs de Spore pour l'apport très significatif de cette publication dans le domaine de la formation et de l'information en matière de développement rural et économique.

Je suis très intéressé par les techniques intégrées de lutte contre les ravageurs enseignées en ouganda aux paysans pratiquant la culture de la pomme de terre.

je serai ravi d'avoir ces informations pour l'intégrer à notre programme de développement de la culture de la pomme de terre dans ma région (région de Dayes au togo).

Merci

Salomon adodo

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