



Potatoes in Asia: A Growing Proposition

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The International Potato Center

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ORIGINS

The potato originated in the highlands of South America, most likely around Lake Titicaca. The Spanish took the plant to Europe in the 16th century as a botanical curiosity. Today, it is the fourth most important food crop in the world after wheat, rice and maize. Potatoes account for roughly half of the world's annual output of all roots and tubers. Since the early 1960s, the increase in area planted in developing countries has been higher than for any other major food crop.

GLOBAL IMPORTANCE

Annual world production currently totals 274 million tons on 18 million hectares. The Russian Federation ranks as the world's largest producer, followed closely by China. Together, the Russian Federation and Poland account for almost one-third of the world's total planted area. China and India account for an additional 22 percent.

DYNAMISM

The potato sector world-wide is in transition. Europe and the former Soviet Union account for the bulk of production and trade (Figure 1), but the situation is changing rapidly. In the early 1990s, ±30 percent of the global potato output was produced in developing countries, up from 11 percent in the early 1960s (Figure 2). If this trend continues, in less than a generation, most of the world's potatoes will be harvested in Asia, Africa, or Latin America. As a result, potato is becoming an increasingly important source of food, rural employment, and income for the growing populations in these regions (Figure 3).

Figure 1. World Potato Trade (000 t)

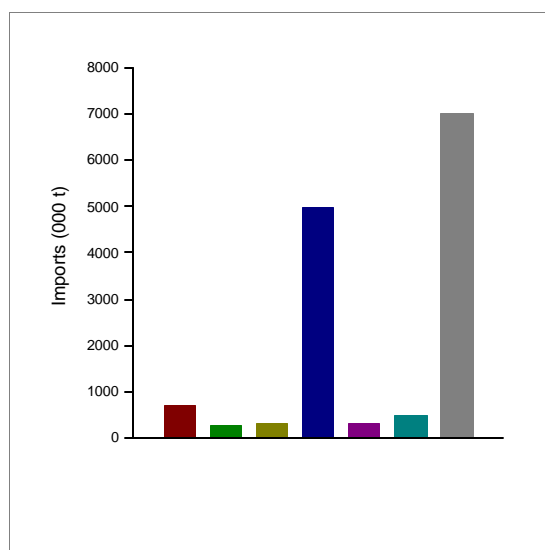
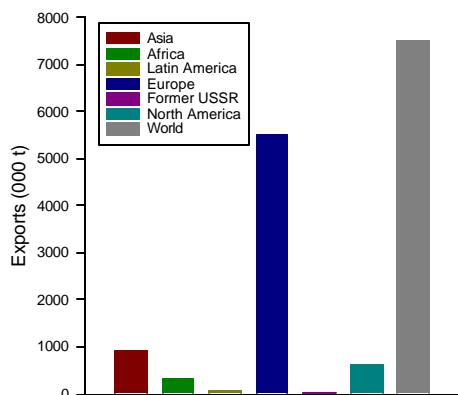


Figure 2. Global potato production (000 t) 1961-93

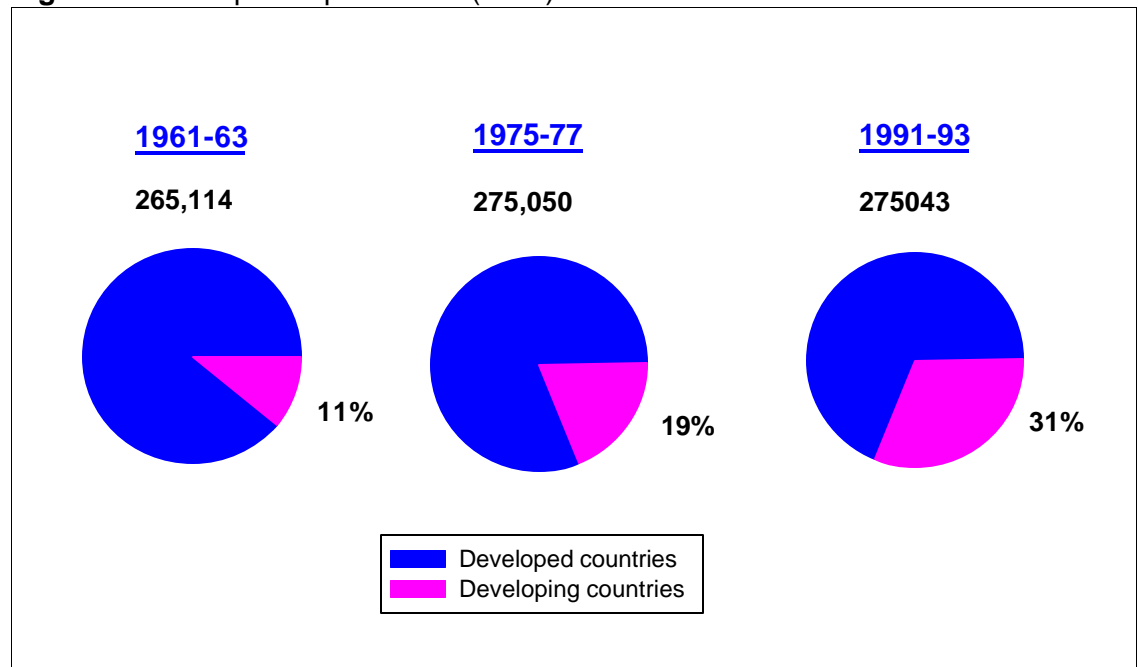
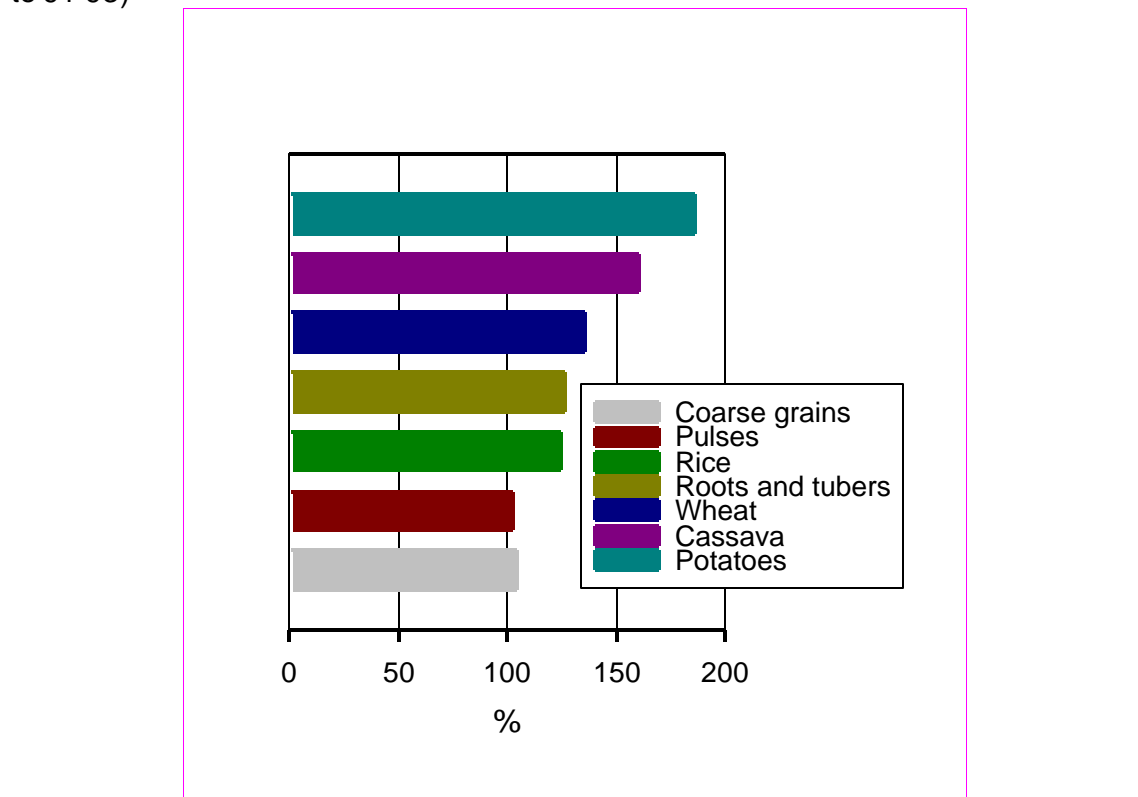


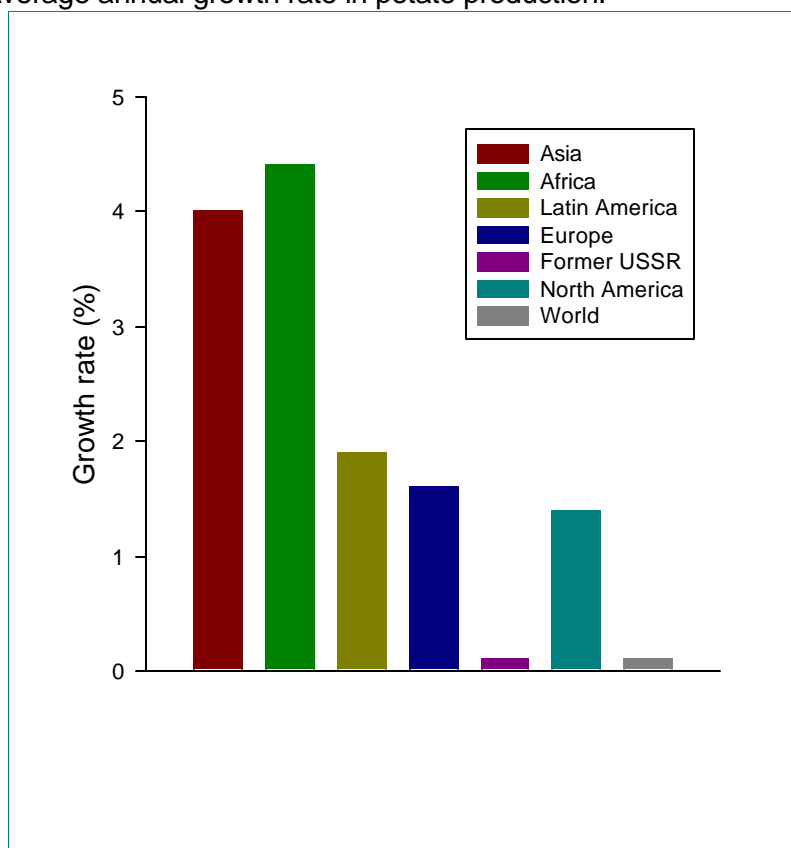
Figure 3. % increase in area of selected food crops in developing countries (1961/63 to 91-93)



GROWTH IN ASIA

Over the past three decades, Asia and Africa have experienced the world's highest annual growth rate in potato production (Figure 4.). With its short cropping cycle, potato fits particularly well into Asian food production calendars, where it is rotated with fast-growing hybrid cereals. The potato has become a valuable cash crop in India and other places where off-farm demand is strong and yields are high enough to market 60-90 percent of the harvest and still meet household food requirements. The expansion of cold-storage, the emergence of processing facilities for the fast food industry, and the indirect influence of improved rice and wheat irrigation systems have also contributed to the expansion of potato production in Asia. Low prices relative to cereals combined with the economic impact of improved storage systems have stimulated greater demand. Nevertheless, the lack of adequate seed systems is the most important impediment to the development of the crop. Unfavourable agroecological conditions interfere with the production of high quality seed in most Asian potato-growing areas.

Figure 4. Average annual growth rate in potato production.



THE SEED PROBLEM: A SOLUTION

One solution to the problem of high quality seed is the use of botanical or true seed instead of conventional propagation from tubers. True potato seed (TPS) has promise in certain agroecological niches of South East Asia. One such area is the Red River Delta around Hanoi, Vietnam where hundreds of hectares of potatoes will be grown from TPS during 1997, avoiding the disease problems associated with traditional tuber

plantings. The hybrid seed grown in Vietnam was developed in CIP-sponsored projects in India where seed production is now in the hands of the private sector. The TPS project in Vietnam is sponsored by the Asian Development Bank.

INTEGRATED PEST MANAGEMENT: A MUST

The potato has more pests and diseases and receives more pesticide applications than any other food crop (Table 1). CIP -ESEAP collaborates with governmental and non-governmental organizations to promote Integrated Pest and Disease Management based on four principles originally developed by the FAO Intercountry IPM Programme for rice:

- grow a healthy crop
- conserve the natural enemies of pests
- monitor fields frequently, and
- through training and hands-on experience, farmers become expert practitioners of Integrated Pest Management.

In Vietnam, a project for implementing Integrated Pest Management of TPS-based potato cultivation is sponsored by the Neys-van Hoogstraten Foundation of the Netherlands.

Table 1. The pesticide treadmill in vegetables in Indonesia (Source: IPB/UNILA)

Crop	No. applications/season	% input costs spent on pesticides
Rice	2.5	3
Soybean	5	10
Cabbage	12	25
Chilies	15	25
Onion	16	30
Potato	20	30

FOR MORE INFORMATION

For more information about the importance of potato in the world's food system visit:
The World Geography of the Potato at: <http://julian.dac.uga.edu/intro.html>.