

## POTATO PRODUCTION IN THE TROPICAL HIGHLANDS: CONSTRAINTS, FUNGICIDE USE AND THE IMPACT OF IPM STRATEGIES

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### Introduction

Potato (*Solanum tuberosum*) is an important cash and food crop in various tropical highlands of Africa, Asia and Latin America. Potato production in the tropical regions of the world is quite diverse involving ecological, cultural and economic considerations. The total production in the tropics is estimated at about 100 million metric tons and per capita consumption is about 20 kg/per person per year. In the tropical highland regions, ambient temperature conditions during the cropping season range from 14 to 25 C. The rainfall received during the cropping seasons is often adequate (> 1,200 mm/annum). Potato production (total acreage & yield) and consumption is increasing in the tropical highlands. The majority of potato production in the tropical regions of the world is however, found in the Indo-Gangetic plains and southern China where growing conditions, IPM techniques and other practices are very different from the tropical highlands of Africa and Latin America.

### Potato production characteristics and constraints

In the tropical highlands, potato production is concentrated between 1,800 and 2,700 meters above sea level (masl). There are typically two rainy seasons in which potato is produced two times a year. In other cases, one long rainy season (4-6 months) in which production is confined. Production is typically by small-scale farmers, with acreages of 0.25 to 5 hectares, however, there are few large-scale farms. Potato yield in the tropics typically varies between 5 and 30 tons/ha. There are various production constraints among which are potato diseases/insects such as late blight, bacterial wilt, potato tuber moth, potato viruses. Lack of proper ware and seed stores also creates problems. Inadequate supplies of quality potato seed is another serious constraint. Most farmers use seed from previous crop or buy

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Participants of farmer field schools are conducting agro-ecological observations in their fields.

Top: In Nyamiyaga, Kabale district, South-west Uganda  
Above: In Cajamarca in Peru.

low quality seed from market sources. Seed health testing and phytosanitary regulations pertaining to production of basic and pre-basic seed or certified seed observed in temperate countries are often inadequate or restricted to few large-scale commercial farms. In some tropical countries, potato seed is produced through informal systems. At harvest, most of the product is often sold for cash, however, home consumption is very important. The ware or table-stock tubers are stored for future sale. There is an increase in consumption in urban areas