



Exploiting fully the potential of potato to increase food security in Uganda

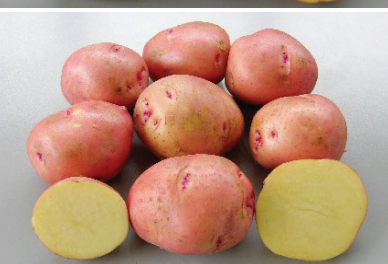
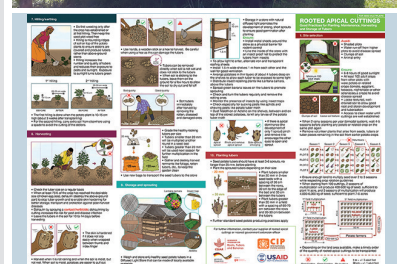
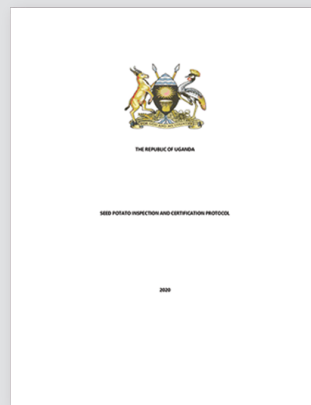
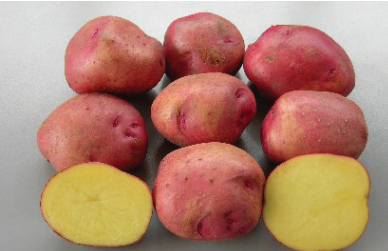
Potato is in Uganda an important staple crop for food and economic security from household to national level and can thus greatly contribute to reducing rural poverty. Unlike other staple crops such as rice or maize, potato matures quickly in 3-4 months, breaking the hunger gap faster. Potato also uses resources efficiently, producing more edible dry matter and calories per unit of time, area and water compared to cereals. This is especially critical during times of drought or water stress (insufficient water) which can plague humanitarian situations. Furthermore, potato is characterized by a high nutritional quality, contributing high levels of protein, vitamins B1, B6 and C as well as minerals like potassium, magnesium, iron, and zinc to the human diet. These qualities make potato a part of the solution to improve food and nutrition security. Supporting potato production can mitigate the pending wheat crisis as the crop is mostly produced and traded domestically thus not susceptible to global trading whims.

Traditionally grown by smallholder farmers in the southwestern, western, and eastern highlands of the country, its production has recently expanded to low- and midland areas in central and northwestern Uganda. Some selected regions in northeastern and northern Uganda produce small quantities of potato as well. According to FAO, Uganda's national potato production grew from 167,000 to 182,000 t between 2010 to 2019 to respond to an increasing demand and consumption, mainly driven by population growth and rapid urbanization. This increase in production has been obtained by expanding the land cultivated from 35,000 to 44,000 ha rather than by increasing productivity. Currently, the overall productivity of potato in Uganda is estimated at 3-7.5 t/ha, much below the realizable yields of 20-30 t/ha. This low productivity is mainly due to the use of poor-quality seed and limited

knowledge and application of good agricultural practices (GAP) by potato farmers and negatively impacts the national food security.

Potato in Uganda is primarily traded as fresh ware potato with minimal value addition. Most potato is sold immediately after harvest to local middlemen or traders then onto wholesalers, retailers, restaurants, hotels, and fast-food kiosks. Industrial crisps processors constitute a small but stable business. Seasonal mismatches between demand and supply lead to high price fluctuations that negatively affect most actors along the potato value chain, particularly when the supply exceeds demand. Postharvest losses along the value chain are estimated at $\approx 36\%$, or a total volume of approximately 65,500 t of food loss in 2019. These losses are mainly due to diseases, careless handling, poor transport means and inadequate storage conditions.

The International Potato Center (CIP) is an agricultural research-for-development organization with a focus on potato and sweetpotato. We deliver innovative science-based solutions to enhance access to affordable nutritious food, foster inclusive sustainable business and employment growth, and resilience for root and tuber agri-food systems. Headquartered in Lima, Peru, CIP has programs in Africa, Asia and Latin America and is a member of the One CGIAR, a global agricultural research partnership for a food secure future. CIP has a half-century of success in Africa, supporting institutions and partners to uplift smallholder farmers and vulnerable communities through potato and sweetpotato systems. CIP collaborates with national governments, public institutions and extension services, development partners, the private sector, as well as farmers and their institutions to develop and implement robust and science-based interventions.



Support to the introduction of robust potato varieties

Innovative technologies and tools to increase quality seed potato supply

Seed Potato Inspection and Certification Protocol 2020 to allow seed potato quality assurance

Promotion of good potato management practices

Innovations spearheaded by CIP in collaboration with local and international partners

Together with its local and international partners, CIP has contributed to the development of the Ugandan potato sector. Innovations promoted by CIP over the last years include the introduction of robust potato varieties, rapid multiplication technologies for early generation seed production, the promotion of seed potato production by private seed businesses to increase supply, the development of seed potato inspection and certification guidelines, the deployment of diagnostic tools for several diseases, and capacity building of value chain actors in good potato management practices and collective action. Some challenges, however, remain, e.g., focus of interventions concentrated on few and more traditional potato producing areas, lack of implementation of adequate seed potato quality assurance mechanisms and sound production planning to meet cost-effectively seed targets and demand, low adoption rate of newly released improved varieties and GAP by farmers, and selling of potato mainly on an individual basis by farmers with little bargaining power

To tackle partly these challenges, CIP is keen to offer its expertise and experience in the following fields of action:

- **Field of action 1:** supporting the seed system development in the Rwenzori, West-Nile, and Karamoja sub-regions; key to developing the local potato sector and fully exploiting its potential to contribute to increased food security, this field of action will bring together, through capacity building and the introduction

of innovative technologies, public and private stakeholders to solve seed supply bottlenecks while aligning with local ongoing initiatives;

- **Field of action 2:** supporting the implementation of the Seed Potato Inspection and Certification Protocol 2020; key to reduce the spread of seed-borne diseases and to allow an increased seed potato production according to the standards prescribed, this field of action will generate experience to make the protocol work for the Uganda potato seed system characterized by its small-scale private nurseries and dispersed seed multipliers;
- **Field of action 3:** promoting newly released improved varieties and farmers' capacity building in GAP for potato production; key to improve farmers' knowledge in potato farming, this field of action will expose them, through trainings, the installation of demonstration plots and the organization of field days to promote peer-to-peer learning, to the impact on yield of using improved varieties and applying sustainable agricultural practices;
- **Field of action 4:** supporting farmers' organizational and market system development; key to improve farmers' collective action and access to lucrative markets, this field of action will enable committed farmer groups, through capacity building, technical backstopping in seed production and quality assurance as well as the promotion of digital tools, to graduate to certified seed production and marketing, complying with seed regulations and certification protocols.



Contact

Pieter Wauters • CIP Uganda
P.Wauters@cgiar.org

Monica L. Parker • CIP Kenya
M.Parker@cgiar.org

CIP thanks all donors and organizations that globally support its work through their contributions to the CGIAR Trust Fund. <https://www.cgiar.org/funders/>



© April 2022. This publication is copyrighted by the International Potato Center (CIP). It is licensed for use under the Creative Commons Attribution 4.0 International License