

## CIP'S POTATO STRATEGY FOR AFRICA: IMPROVING LIVELIHOODS OF POTATO FARMERS IN AFRICA BY TACKLING DETERIORATED SEED QUALITY THROUGH AN INTEGRATED APPROACH

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Potato is an ideal crop for smallholder farmers in African highlands, as it yields more calories per unit area with a short growing cycle, and is nutritious, making potato an important food security and cash crop. However, yields in Sub-Saharan Africa (SSA) range from 6-10 t ha<sup>-1</sup>, far below attainable yields of 25–35t ha<sup>-1</sup>. Demand is increasing for potato in SSA, but the trend is to increase the area under production rather than tackle productivity constraints. Although the solution is to increase productivity, the major bottleneck is limited access to quality seed of suitable varieties, which limits yields, food availability, and incomes. Seed potato production systems in most SSA countries have traditionally been the sole responsibility of national programs, and the systems have largely been operating under limited human capacity and facilities without a functioning quality control system, although seed regulations exist in most of the countries. Consequently, farmers use unmarketable small potatoes for planting, which are generally of poor health status, causing diseases accumulation and spread in farmer-saved seed stocks. Furthermore, advances in breeding often bypass farmers' due to the inability to access quality seed of these varieties, which largely undermines investments and innovations in breeding. CIP has proven experience from interventions in six African countries of a strategy to improve seed qualities and seed production. The strategy integrates Rapid Multiplication Technologies, such as aeroponics, to increase early multiplication rates to reduce the number of field multiplications from five to three generations under the "3 Generations" approach and includes scaling-up and out decentralized seed production, implementing quality control by using Quality Declared Planting Material (QDPM) standards, an extensive awareness building campaign, distribution in small seed packages to increase accessibility to quality seed, and training farmers to maintain seed quality on farm. In Ethiopia where there is no functional seed certification, piloting QDPM seed quality control, which is based solely on visual inspection, resulted in significantly better health status of the crop and doubled yields compared with farmers saved seed, illustrating the potential of using sub-standards in developing countries rather than relying on expensive and malfunctioning certification schemes alone [1]. Through project interventions, CIP successfully supported seed production systems in eight African countries. Key to the success was/is the strategic partnering between the private and public sectors along the seed value chain. In Kenya for instance, the production of certified seed rose from 250t in 2009 to about 4000t in 2013, predominately produced by private seed producers. Additionally, further multiplication by decentralized multipliers provided another 5000t of improved seed qualities. The presented paper gives an overview and comparative analysis from experiences from seed interventions in SSA of the past five years and the strategy for the next decade.

### References

- [1] Schulz, S., Woldegiorgis G., Hailemariam, G., Aliyi, A, van de Haar, J., and W. Shiferaw, 2013. Sustainable Seed Potato Production in Ethiopia: From Farm-saved Seed to Quality Declared Planting Material, pp 60-71. In: Seed Potato Tuber Production and Dissemination – Experiences, Challenges and Prospects (Eds G. Woldegiorgis, S. Schulz, B. Berihun). EIAR, Addis Ababa, Ethiopia.